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## TOBACCO.

### ITS INSECT ENEMIES AND ITS CULTIVATION, FROM THE PLANT-BED TO THE HANDS OF THE SHIPPER.

We have chosen for the frontispiece of this number, the Tobacco Plant and its formidable enemies, the unicorn fly, commonly called by planters the horn-blower, and the worm proceeding from the egg which that fly deposits on the leaf of the plant, to be hatched, and then, like the silk-worm, to pass through a brief and gluttonous existence; feeding, night and day, on the substance and the hopes of the plant and the planter. Having rapidly attained its full growth, it buries itself in the earth, to be transformed into a loathsome grub, thence to reappear in brilliant attire, as here exhibited, for the last scene of its changeful career. With new and more refined taste, corresponding with its change of dress, it now luxuriates for a season on the sweets which Providence places for the support of insect life, in the blossoms even of the most loathsome weeds, and having finally indulged the universal passion, it deposits the fruits thereof where its own life commenced, and thus completes the round of its ephemeral existence.

The genus *Nicotiana* is an annual plant, flowering and ripening its seed in almost all parts of the U. S. and is yet cultivated for profit as far north as Connecticut, where its leaf is remarkably delicate and silky, with small fibres, and when cured rather of a dark cinnamon than of a bright color, and is understood to be used chiefly as wrappers of cigars.

Botanically speaking, this plant has a *funnel shaped corolla, with its border somewhat plaited, stamens inclined, stigma emerginate, capsule two celled, two or four valved*. The species *tabacum*, figured in the Plate, has its *leaves ovate, lanceolate, sessile, decurrent flowers paniced, acute*.

The Plate exhibits:

1st. The plant in blossom—

2d. The capsule—

3d. Ripe capsule, or seed-vessel opening at top, and,

4th. Transverse section of the capsule.

As to the character and habits of the worm and the fly, we have been for these to the foot of Gamaliel; and were there so fortunate as to obtain the following account from that distinguished planter, the *President of the Prince George's Agricultural Society*, and what is more and much better proof of practical excellence, the *winner, the past year, of the first prize for the best managed farm!*—a much greater honor, in our poor esteem, than if awarded for killing 1,000 guerrillas.

OCTOBER 22d, 1847.

*Dear Sir*:—You were pleased to ask me for such observations in regard to the Tobacco worm as my actual experience enabled me to make. In compliance with that request I state the following facts.

The worm we see upon the Tobacco, and which does so much injury to that plant, increases in size rapidly, and in a few days arrives at full age for its exit from the scene of its then voracious activity. Instinct moves it to bury itself under ground to the depth of six or eight inches. In this self-made grave it undergoes a change, gradual (and perceptible to the naked eye) in all its variations, until it emerges into light once more, as a sort of butterfly, which we planters term "*Horn-blower*." Of this you no doubt have an engraving. These "*Horn-blowers*" make their appearance about the middle of May. Then, every evening and morning, when it is cool, you see them flying about among the flowers of the garden, and sipping their nectar from the blossoms of every flower and weed, but particularly delighting in the tobacco blossom and the Jamestown weed. These *Horn-blowers* lay their eggs in myriads on the tobacco leaves,—not in clusters but *separately*, seldom more than one or two eggs in a place, and not often more than four or five on a whole leaf. In a fortnight or thereabout, these eggs burst and the contents are found to be an active little worm, hardly perceivable to the human eye unaided by a glass. By the time it is visible it has eaten a hole through the leaf about as big as a pin's head;—in a few days it will destroy pounds of tobacco in its green state. Its digestive organs are wonderfully active. It is constantly eating, growing in size, and discharging excrement, which is hard and black and round, resembling in size and form "*Lee's Anti-Bilious Pills*." It is a fact no less true than wonderful that this petty worm, never reaching to the weight of 2 oz. should, in ten or fifteen days, consume and digest 2 or 3 lbs. of green food. They make considerable noise when eating, after they have obtained a good size. What becomes of the butterfly or "*Horn-blower*" I do not know, and have no speculative theory on the subject.

I think they might, in a few years, be exterminated if every planter would pursue this course, to wit: About the last of November or first of December, after hard frosts have set in, plow up, *very deep*, the field in which tobacco was grown the same year. Those that were in the chrysalis state would be turned out and destroyed by the frost, snow and rains. Very early in March go about the tobacco houses and dig up the floors, scrape under the sills, and plow for some distance around the houses, and *destroy* every one that can be seen. Make it also a point to reward liberally every negro, old and young, for each *Horn-blower's* head throughout the *whole* year. Let these rules be pursued by *every* planter and they could be exterminated. A gentleman of my acquaintance offered, the past season, one cent for every *Horn-blower* that his negroes should catch and bring to him. He allowed them one hour before sunset to stop work for the purpose of catching "*Blowers*." The first evening his people brought him in 1,650!!! Another paid, during the season, fifteen or twenty dollars at only a fourth of a cent a head. A capital farmer in digging about his tobacco house for the manure which had there accumulated, must have destroyed a bushel of worms in the chrysalis state. To show how plenty these insects are I here state the fact that I had in 1846 a piece of tobacco of 40,000 plants, and in two days there were gathered 16 bushels of worms from those plants, and *then* we thought that we had fully one-half or two-thirds of them. I have often seen a quart taken from one plant. These facts have been hastily thrown together; I hope they may be of some use to you.

Yours most truly,

W. W. W. BOWIE.

To the above suggestion for the destruction of the worm we would recommend at least a limited trial with *salt*. The more recent experiments in England go to show great efficacy in the action of salt used for the destruction of grubs. We know not at what cost it can be applied in our country, but we have great confidence in its usefulness in that way when combined with the fall plowing recommended by Mr. Bowie. In a subsequent letter he says: "I have no experience in regard to *guano* on tobacco in the field;—in the *bed* it is a powerful assistant to the growth of the plants if used judiciously; but, to my dear bought knowledge, will, if used freely, destroy the plants. The proper mode is to use it in the liquid state—say one half bushel of *guano* to a hogshead of water; and when dissolved pour it over the plants, by means of a watering-pot. The result will be astonishingly beneficial."

One thing we would here suggest, to accelerate the growth of plants, that whereas a *black* surface is more absorbent and retentive of heat than a lighter one, if coal-dust of any kind could be sifted over the bed, it would increase the warmth and the fertility of the soil, and so forward the germination of the seed and the growth of the plant; and this suggestion may be useful where it is ne-

cessary to bring forward early plants, in the garden as well as elsewhere. In relation to the fly that attacks the plant in the bed, and which, with Mr. Bowie, we suppose to be the same as the turnip fly, we do not know that it will be in our power to say anything useful, but what we can say, shall appear in the February number—in time for any defence that can be made against it. This voracious and active little insect is estimated to have destroyed *half a million of dollars' worth* of turnips, in a single county of England, in one year.

Volumes have been written, pro and con, on the use and abuses of this very remarkable plant—remarkable alike in its history, its uses and its commercial relations—and especially in its serpent-like power to fascinate and overcome by its *charms*, of an indefinable sort, the disgust it is in most respects so well fitted to inspire. As we have anticipated by a month or more the season for sowing the seed, we may indulge here in some remarks relating to its original habitat and its chemical and medicinal properties, intending in subsequent numbers, and in good season, to present it in all the practical views connected with its cultivation and commercial value—not for the benefit of our friends in the old “Plantation States,” who know it all “like a book,” but because it may interest some who propose to embark in its culture, and yet more for the reason that in *The Farmers' Library* it is proper that the American cultivator should find, ready at his hands, memoirs, as full as need be, in regard to every important branch of Rural Industry.

*De gustibus non disputandum*—in plain English, there is no disputing about tastes; and though many of our readers may forego, and even abhor the use of tobacco in every form, the consumption of this delectable weed has nevertheless spread into all parts of the world; nor is there any, where the taste for it is so licentiously indulged as in our own, if we may believe the half that is written to stigmatize our habits, on this point, by travelers, male and female, who come *Trolloping* over our country, to seek what blemishes they may descry—and, alas! let us confess, aside, descrying but too many. To quote our own language twenty-seven years ago—

“In the whole Vegetable Kingdom, perhaps, no plant can be found, the propagation and effects of which have attracted as much notice, and produced so much excitement as this disgusting—some would say, fascinating weed. It has been alike the theme of poetical eulogy and the object of secular and political proscription. Popes have let loose their roaring bulls, and Kings have issued their decrees against it, and well would it be if Church and State would form alliance only on such occasions.

“Like some other narcotic poisons, however, tobacco has made its way against the denunciations of all its enemies, and becomes more dear and indispensable to those who use it in the ratio of its injury to their constitutions.

“Tobacco is a native of this country, and was first imported into Europe about the middle of the sixteenth century by Hernandez de Toledo, who sent it into Spain and Portugal. The Ambassador of Francis II. at the court of Lisbon, carried it into France in 1560, when it was presented to Catharine de Medicis, as a plant of extraordinary virtues from the New World. The Ambassador's name was Nicot, hence the botanical appel-

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lation *Nicotiana* applied to this genus of plants. The introduction of the custom of smoking it in England has been ascribed to Sir Walter Raleigh.

“We are told that some tribes of the aboriginal inhabitants of this continent used tobacco as a burnt offering, the smoke of which they supposed to be acceptable to the gods. Thus we find that different nations address themselves to different senses as the medium for obtaining divine conciliation. While the pious Christian seeks propitiation by vocal or instrumental music, or a concert of both, the poor untutored savage implores favor and happiness through the incense of aromatic gums and the odor of sweet-scented tobacco.

“It is remarkable, says a learned author, that in the days of its first general introduction into Europe no man spoke about it with coolness or indifference, but every one warmly espoused its censure or its praise. Camden, in his *Life of Queen Elizabeth*, says that ‘men used tobacco everywhere, some for wantonness and some for health's sake, and that with insatiable desire and greediness, they sucked the stinking smoke thereof through an earthen pipe, which they pres-



ently blew out again at their nostrils—so that this plant that they seemed as it were degenerated into barbarians.’”

At that rate, what a number of *inside* barbarians we must have here in New-York, where, according to the great statistical writer MCGREGOR, ten thousand dollars' worth of cigars are smoked every day! to say nothing of the quantity that goes into the mouth and nose!

Dr. Venner, in a work entitled *Via Recta ad Vitam Longam*, published in London in 1638, gives a brief summary of the injuries done by tobacco: “It drieth the brain, dimmeth the sight, vitiateth the smell, hurteth the stomach, destroyeth the concoction, disturbeth the humors and spirits, corrupteth the breath, induceth a trembling of the limbs, exsiccateth the windpipe, lungs and liver, annoyeth the milt, scorcheth the heart, and causeth the blood to be adusted. In a word, it overthroweth the spirits, perverteth the understanding, and confoundeth the senses, with sudden astonishment and stupidity of the whole body.”

Thus, more than 200 years ago, was denounced the great staple which our Prince George's friends persist in cultivating. If half the learned Doctor says of it were true, one might suppose that Malthus himself could desire no more effectual check on the readiness of mankind to follow that one most heeded of all God's commandments. But, like old Count Cornaro's *Via Recta ad Vitam Longam*, we apprehend it will ever be found much easier to read than to follow it.

The priests of some tribes swallowed the smoke of tobacco to excite in them a spirit of divination, and when recovered from the fit of stupor into which it threw them, they asserted they had held a conference with the devil, and from him had learned to predict events. Their “Medicine Men” pretended to be inspired in like manner with a knowledge of diseases and their cure. The rich indulged in it, we are told, as a luxury of the highest order, and the poor, as now, gave themselves up to it as a solace for the miseries of life. In the Southern States, now, in their almost universal solicitude for the comfort of their slaves, planters provide for them a regular supply of tobacco.

So excessive became the use of it that in many countries its consumption was forbidden or restrained by public authority. So excited against it was the First James, of England, that he not only denounced it in his book, “The Tobacco Blast,” but expressly prohibited the planters of Virginia from cultivating more than 100 pounds on any one plantation, and vehemently warned his subjects not to “sin against God and harm their own persons and goods, and render themselves scorned and contemned by strangers who should come among them, by persevering in a custom loathsome to the eye, hateful to the nose, and baneful to the brain.” Of such sumptuary laws and arbitrary interference with private habits and individual economy and freedom of action, have we not even yet some unavailing if not barbarous relics on our statute books? In this, be it understood, we by no means refer to the municipal law, still in force in a neighboring city, against any man caught, *flagrante delicto*, smoking in the street—extending their magisterial benedictions against this pride of Maryland industry even farther than Pope Urban the VIIIth, who confined his excommunication to those only who should impiously diffuse the smoke of tobacco in the churches! In Constantinople the anti-tobacco laws were yet more severe, for there the Turk who was found smoking was paraded publicly, with the pipe transfixed through his nose—a more appropriate punishment, one would think, for such as belong to the numerous and fashionable tribe of *snuffers*.

In the earliest record of Harvard University, as is set forth in the Memoir before us, there is a regulation that “No scholar shall take tobacco unless permitted by the President, with the consent of their parents and guardians, and on good



reason first given by a physician, and then in a sober and private manner." We can't undertake to say how it is at Harvard University now, under the Presidency of a gentleman so distinguished for scholarship and courtly manners, but we apprehend, for that matter, that in many of our institutions, the justification of the student might be found in the example both of the LL. D.'s and the M. D.'s among their elders.

On the other hand, this exciting weed has not failed in advocates among the literati, some of whom have hymned its praises in various forms and languages; for as Mr. Jefferson extolled the *oil of olives* as "the next best gift of God to man *after bread*," the pious author of a Latin "Hymn to Tobacco," styles it "the gift of Heaven and the ornament of the earth." Hence is here submitted a picture of this ornament of the earth, to the judgment of the reader, who in making it up will please remember to *drop the worm*! By-the-by, it ought to be explained that his wormship is never caught, as here exposed, reposing on the *top* leaf; but there was not room to display an entire plant, and to place the beautiful object where he delights to "revel," that is, on the most delicate and richest parts of the prime leaves below, eschewing the coarsest and greenest portions of the leaf and stems, while his fell destroyer, Man, (not the turkey,) with less delicacy of discrimination, eschews none, but *chews* all the manufacturer gives him, with some not very nice additions, such as copperas, &c.

The narcotic properties of tobacco, to which it owes its fascinating powers, remind us not only of the "Confessions of the Opium-Eater," but of the effect also of the "*betel-root*," and another substance called "*churrus*," of the East Indies, where both are freely used, both as medicines and as opiates, having the power to beguile the imagination with the most delightful reveries. The similarity in the medical properties with those of tobacco, even suggest, if our planting friends will excuse the intimation, whether these Asiatic drugs may not at some future day, as yet it is to be hoped deeply wrapped in the womb of Time, be made to take the place of our great staple. Would it not, in a word, be more lamentable than strange, were the starveling natives of the East (called free) to supply, in the process of time, substitutes for two of the great products of the planting States, one entirely and the other in a great measure the product of Slave Labor—a labor with us so much better provided and more kindly cared for than any laboring class in Europe?

The *churrus*, above alluded to, is an *extract from hemp*, the *Cannabis Indica*. If what is said of the betel-nut be true, it ought certainly to be introduced into the veterinary practice of our country, than which practice nothing, no art, certainly, can well be in a lower or more rude and unsatisfactory state.

We might here introduce, were it only for the reason last stated, a more extended notice to illustrate their similarity, in effects, to the narcotic of which we are treating, but that it would swell this article to an immoderate length, and so we shall assign it, if we can, another and contiguous position—contenting ourselves here with this reference to it as a matter that may repay the attention of the curious reader. But again to the subject in hand.

It will be time enough hereafter to speak of all that concerns the cultivation and management of tobacco, except as to the preparation of the *seed and seed beds*. On these points we turn with interesting recollections to the time and the relations of intimate friendship which enabled us to draw, twenty-seven years ago, from one whose retiring disposition was only surpassed by his merit and capacity, "NOTES ON THE CULTIVATION AND MANAGEMENT OF TOBACCO, FROM THE

**PLANT-BED TO THE PRIZE**”—by PETER MINOR, of Albemarle County, Virginia. On these notes we shall chiefly depend for all that we shall have need to say farther of this plant, through all the stages of its growth, until it passes from the hands of the planter to be taxed in all countries. In that land of “free trade” where the great Agitator in its favor has been presented with a million of dollars, it pays *only* about 700 per cent. before it is allowed to reach the consumer.\*

There is one thing which we do not see adverted to, that we apprehend needs particular attention, and that is, the particular *depth* at which these and all other seeds should be deposited—the smaller the shallower. The principle has been laid down, that full air, a moderate degree of moisture, and a temperature suited to the kind of seed, are all necessary to a perfect germination. We apprehend that the seed of tobacco cannot well be put in too shallow, as it is termed, provided the light be excluded. It has been observed, says Professor Johnston, that seeds cannot germinate if entirely excluded from the air. They will remain some of them apparently for ages without exhibiting any signs of life, and yet, when brought near the surface, will speedily begin to sprout. Thus it is that one may notice, all along the line of the New-York canals and railroads, myriads of the Canada thistle and other weeds, not present at first in cultivated fields.

**CHOICE OF LAND FOR THE PLANT-BEDS, AND MODE OF PREPARING IT.**—A rich virgin loam with a slight mixture of sand is ascertained to be the best soil for raising tobacco plants. Such spots are indicated by the growth of alder and hazel bushes in bottoms and on the margin of small streams, and if the situation has the command of water for irrigation it is on that account to be preferred. The spot being selected, the first operation is to burn it with a strong fire. For this purpose the growth of every kind is cut off, (not grubbed up) and the whole surface raked very clean. The burning should be done before Christmas, or as soon after as the weather will permit; and if done thus early it cannot be well too heavy, even bringing the soil to a hard cake. The wonderful fertility imparted to soil by fire, has of late years been clearly proved and developed by various experiments in this and other countries, but

judging from long-established practice, we suppose it is a fact that has been long known to tobacco planters, that this fertility is imparted by the fire, and no ways dependent upon the ashes left by the process is clearly proved from the fact, that the same results will ensue if the ashes are swept off entirely clean. Or take another piece of ground of equal quality, cover it with as much or more ashes, and prepare it in every respect similar, except burning, and plants cannot be raised in it. Hence the necessity and propriety of regular and uniform burning, the want of which is always manifested by a diminutive, yellow and sickly growth of plants in those spots, not sufficiently acted on by the fire.

After the ground becomes cool from burning, the whole surface should be swept with a coarse twig broom to take out the coals. In this operation some of the ashes will be

\* **TOBACCO AND RICE.**—The Washington Union has the following. “The following extract from a letter recently received in this city, from an intelligent American now traveling in Europe, contains information of importance to those of our countrymen engaged in growing rice and tobacco—especially at a season when these articles are in a state of preparation for shipment. We accordingly give it a conspicuous place in our columns, with a view of benefiting the interests of all those concerned:”

“SCHWERIN, Germany, Oct. 20, 1847.

“I should acquaint you with the existing tare established by the German Customs Union upon tobacco imported in hogsheads, and rice in tierces, as I ascertained it to be upon the frontier of the Duchy of Brunswick, when journeying to this place a few days ago.

“The tare on a hogshead of tobacco is 12 per cent. If the hogshead should weigh over 12 per cent. for the quantity of tobacco contained in it, the additional weight pays duty at the rate of  $5\frac{1}{2}$  Prussian thalers per zoll centner—equal to about \$3 33 per 100 lbs. Hogsheads which contain 1,000 lbs. tobacco weigh in the aggregate, I have been told—some more and some much less—200 lbs.; consequently 80 lbs. of wood, or hogshead, pays tobacco duty, amounting to \$2 68  $\frac{4}{10}$  100 cents.

“This extra tax upon their staple product the planters may avoid by making their hogsheads uniformly of the same size—not to exceed in weight, if they are to hold 1,000 lbs. of tobacco, 120 lbs. This, if the wood be good, would insure sufficient strength.

“The Zoll-Verein imported during the year 1846, 29,000 hogsheads of tobacco and stems. If, therefore, a duty of 20 per cent. instead of 12 was realized, for tare, our staple was taxed unnecessarily \$77,731 75.

“The tare allowed on rice, in tierces, entering the States of the Zoll-Verein, is 13 per cent. It is to the interest of the producers of rice in the United States to be careful that there should be no excess of tare beyond this, inasmuch as they have a formidable competitor in Holland in the German markets. The Java rice is all imported in bags, upon which a tare of 4 per cent. is allowed in the Zoll-Verein. This the Dutch, with their habitual good economy, avoid exceeding.”

[Baltimore American.]

removed, but that is of no consequence; it should then be broken up about two inches deep with grubbing-hoes, in which operation and in repeated choppings afterward with hilling-hoes, all roots will be cut and finally got out with a fine iron-tooth rake which will leave the ground in proper order to receive the seed.

The most approved time for sowing is about the first of February, the beds previously prepared being suffered to lie and mellow by the frost and snows to that time. But it will do very well to burn and sow after that time, as late as the first of March, taking care not to have the heat so great. The quantity of seed is as much as can be taken up in a common table-spoon\* for 100 square yards, and that in proportion. This quantity of seed should be mixed with about one gallon of clean ashes, and half that quantity of plaster of Paris, and the whole well incorporated, and then strewed uniformly over the bed at two operations, crossing at right angles to insure regularity. Cabbage-seed for early planting, tomato, celery and lettuce-seed may be sowed in small quantities with the tobacco-seed, without material injury to the growth of the plants. After sowing the seed the ground is immediately trodden over closely with the feet, and covered thick with naked brush. If the frost is severe from this time it is common to take off the brush some time in

the month of March, before the plants appear, and tread the bed again, and at the same time give the ground a slight dressing of manure. The dung of fowls of all sorts is sought after for this purpose, which being beaten, is sifted over the bed through a coarse basket or riddle. The brush is then restored, and not finally removed until the leaves of the plants are half an inch in diameter; when the dressing of manure is again applied, taking care to wait the approach of rain for that purpose. Any grass or weeds that may have sprung up in the mean time are carefully picked out. In dry seasons, if the situation admits of it, the bed must be irrigated by training a small stream of water around the edge of it. If not, it should be watered every evening with a common watering-pot or pine bushes dipped in water and shaken over the bed until sufficient moisture is obtained.

Under a careful observance of this management, the plants, according as the seasons have been favorable or not, will be fit to transplant from the 15th of May to the 10th of June. A planter thinks himself lucky if he can get his crop pitched by the 10th of June. After that the seasons are uncertain from the heat of the weather, and the chances of success for a crop precarious—though it has been known to succeed when planted the middle of July.

It may be unnecessary to warn the reader to bear in mind the latitude in which the above was written, and the difference that makes in the time of sowing. Turning back two years for information, the best we could get on the same subject in Maryland, the time for sowing is stated to be about the first of March, but much, doubtless, depends on the nature of the weather and the state of the ground.

We should stop here for the present, were it not that the preparations of the planter for an early and full supply of plants is the turning-point in his operations for the year; for although in cases of failure with early sown beds, others might come on in time, the great danger is that then he might not have seasons. It is in nice, judicious and timely attention to this matter that such men as Mr. Talbert, and Zadock Sasscer, and Tilghman Crawford get their crops "pitched," while many of their easy-going neighbors are not half done. For a planter to be caught, when the season arrives, without plants, is as if the gallant, and yet more, the humane Gen. Scott had been unprovided with ammunition at the gates of Mexico. By way of relief, then, to the reader, tired, it may be, of the subject for the nonce, we will break off here, and give him, hereafter, a small chapter on the Germination of Seeds in general, which may be useful to all cultivators, whether gardeners or farmers. In a subsequent number we will tell all about planting, curing, seasoning, prizing, &c., and give analyses of the plant, as far as they have been made by *Vauquelin*, the celebrated French chemist, and others. It will be seen that the plant contains a large portion of lime.

\* This quantity of plant-bed is generally considered under good circumstances as sufficient to set ten thousand hills in good time—but the prudent planter taking into consideration the casualties of fly, drouth, &c., will do well to make a larger allowance. We know of no certain remedy or antidote against the fly which destroys the early plants.



## AYRSHIRE CATTLE.

OBSERVATIONS MADE IN EUROPE BY MR. COLMAN AND PROFESSOR NORTON—QUALITIES AND USES MADE OF THOSE IMPORTED IN MASSACHUSETTS—LETTER FROM MR. PHINNEY.

READERS attracted by personal interest in this breed, or by partiality for the general subject of cattle, may remember that in the September number of 1846 we published a description of the stock then recently imported by the Massachusetts Society for Promoting Agriculture, by E. PHINNEY, Esq., a Trustee of the Society. Referring now to that number, we have the pleasure to add the following obliging letter from Mr. P. in answer to inquiries as to the results of that and previous importations. Our readers will feel indebted to him, as we do, for the fullness and promptness of his reply.

J. S. SKINNER, Esq.

EAST CAMBRIDGE C. H., Nov. 29, 1847.

*Dear Sir:* Your favor of the 11th inst. making some inquiries as to the first and second importations of stock by the Massachusetts Society for Promoting Agriculture, was received on the 26th.

The first importation of stock by the Massachusetts Society, consisting of three cows and a bull of the Ayrshire breed, was made in 1837. They were selected at the request of the Society, by Mr. Hodgkinson, who was considered an excellent judge of stock. The cows were all in calf when they arrived, by first-rate bulls in Scotland. The bull was sent into the western counties of the Commonwealth, where he now is, or whether living or dead the Society know not. One of the cows was placed in the care of Hon. P. C. Brooks at his farm in Medford. The second was put into the hands of Hon. Daniel Webster, and placed on his farm at Marshfield. The third was put under the care of the subscriber, at his farm in Lexington. I have lately examined the stock of Mr. Webster. He has some very beautiful half and three-quarter and full blood cows and heifers, the descendants of the cow imported by the Society, and other Ayrshire stock, imported by him. The cow placed under his care by the Society proved a great milker; and not only Mr. Webster's stock, but that of his neighbors, are much improved by crosses with the Ayrshire breed. The cow committed to my care, now 18 years old, has been an excellent dairy cow, being a deep milker, and yielding in the winter, when kept on hay alone, some months after calving, ten pounds of butter per week. I have sold five of her descendants at \$100 each, at a year old, and if I had had three times that number could have sold them at that price. By crosses of the Ayrshire with my best native cows, I have greatly improved the dairy properties of my stock, and also that of my neighbors.

From what I have seen and known of this and other imported breeds of cows, I am fully satisfied that as a dairy stock for New-England, there is no breed in this or any other country so valuable as the Ayrshire. They are quite as hardy, and endure our cold winters as well as our native stock. They are of medium size, with enormous milk-vessels, and, withal, a capacity for converting their food to milk much beyond any breed that I have known.

This breed of cows is now owned by many persons in this State. Mr. Cushing imported a number of Ayrshire cows and a bull about the time the Massachusetts Society made their first importation. Capt. Randall, of New-Bedford, some years ago, imported two or three first-rate Ayrshire cows, being of the "Swinley" breed, which is held in Scotland to be an improved breed of the Ayrshire. The Massachusetts Society, about a year since, purchased of Mr. Randall his Ayrshire cow, "Young Swinley," whose dam, Swinley, took more prizes than any cow in Scotland. Mr. Wright, of Lowell, has a fine Ayrshire cow, a descendant of Swinley. A Mr. Lawson, of Dracutt, has some excellent Ayrshire cows, and Mr. Morland, of Andover, has some imported cows of this breed. Hon. John C. Gray, President of the Massachusetts Society, has also a first-rate cow of the Ayrshire breed. These are all the persons I can now recollect who have the Ayrshire stock. There are, no doubt, many others. Great care has been taken by all who own this stock to keep the blood perfectly pure and unmixed with other breeds.

The offspring of the last importation, being four cows and a bull of the Ayrshire breed, and four cows and a bull of the North Devon breed, the Massachusetts Society for Promoting Agriculture have recently voted to distribute among the several County Agricultural Socie-

ties, free of charge. They are now making the distribution of all that are of sufficient age to be put to service. In this way the Society hope to enable all the farmers in the Commonwealth to improve their stock.

I regret that my engagements will not allow me to devote more time to this subject. You may, probably, however, find enough in this and my Report for your purpose.

With great respect, your ob't serv't. E. PHINNEY.

We had lost recollection of the importation by Mr. Cushing, referred to by Mr. P., but turning back now to the annals of that period, we find that he supplied Mr. Colman with an exact account of the produce of the four Ayrshire cows on his farm, as set forth in the following statement:

<b>1. Memoranda of Milk given by imported Ayrshire Cow Flora, for one year, 1837.</b>		From 1st August to 1st September ...	693 lbs.
From 17th of May to 1st of June.....	608 lbs.	.. 1st September to 1st October... ..	567 ..
.. 1st of June to 1st of July.....	1192 ..	.. 1st October to 1st November... ..	498 ..
.. 1st of July to 1st of August .....	1064 ..	.. 1st November to 1st December... ..	319 ..
.. 1st of August to 1st of Sept.....	841 ..	.. 1st December to 1st January... ..	403 ..
.. 1st of September to 1st of Oct.. ..	718 ..	.. 1st January to 1st February ... ..	406 ..
.. 1st of October to 1st of Nov....	489 ..	.. 1st February to 1st March.....	351 ..
.. 1st of November to 1st of Dec.. ..	409 ..	.. 1st March to 1st April.....	368 ..
.. 1st of December to 1st of Jan..	432 ..	.. 1st April to 1st May.....	319 ..
.. 1st of January to 1st of Feb....	442 ..	.. 1st to 21st May .....	151 ..
.. 1st of February to 1st of March.	388 ..	Total.....	5163 lbs.
.. 1st of March to 1st of April.....	484 ..	At 10 lbs. per gallon, 516 gallons.	
.. 1st of April to 1st of May .....	419 ..		
.. 1st to 20th of May.....	242 ..		
Total .....	7728 lbs.		
At 10 lbs. per gallon, 772 gallons.			
<b>2. Memoranda of Milk given by imported Ayrshire Cow Juno, for one year, 1837.</b>		<b>4. Memoranda of Milk given by imported Ayrshire Cow Cora, from Nov. 17 to May 21.</b>	
From 23d of May to 1st of June.....	243 lbs.	From 17th November to 1st December	388 lbs.
.. 1st of June to 1st of July .....	796 ..	.. 1st December to 1st January... ..	834 ..
.. 1st of July to 1st of August .....	845 ..	.. 1st January to 1st February.....	846 ..
.. 1st of August to 1st of Sept.....	600 ..	.. 1st February to 1st March .....	776 ..
.. 1st of September to 1st of Oct.. ..	475 ..	.. 1st March to 1st April .....	704 ..
.. 1st of October to 1st of Nov....	313 ..	.. 1st April to 1st May.....	670 ..
.. 1st of November to 1st of Dec..	340 ..	.. 1st to 21st May .....	405 ..
.. 1st of December to 1st of Jan..	394 ..	Total.....	4623 lbs.
.. 1st of January to 1st of Feb....	401 ..	At 10 lbs. per gallon, 462 gallons.	
.. 1st of February to 1st of March.	326 ..		
.. 1st of March to 1st of April .....	328 ..		
.. 1st of April to 1st of May .....	216 ..		
.. 1st to 7th of May.....	30 ..		
Total .....	5307 lbs.		
At 10 lbs. per gallon, 530 gallons.			
<b>3. Memoranda of Milk given by imported Ayrshire Cow Venus, from June 20 to May 21.</b>			
From 20th June to 1st July .....	283 lbs.		
.. 1st July to 1st August.....	805 ..		

To the above statement Mr. Colman adds (as we find in the New Genesee Farmer) the following from Mr. Randall, of New-Bedford, Massachusetts, dated September 9, 1841:

"My thorough-bred, full-blooded Ayrshire cow Swinley, was imported by me from Scotland in 1839. She was six years old in May last. She calved on the 31st of last March. She was milked regularly three days previous to dropping her calf, and had drawn from her in the time from 45 to 50 quarts. Commenced setting her milk for butter on the 1st day of April. The calf was not allowed to touch a teat, was fed on new milk for nine days, and after that time on skimmed milk. In all April, the quantity made from her was 43 lbs. 6 oz. The quantity in May was 42 lbs. 4 oz. In this month her milk decreased. Quantity in June

was 44 lbs. 7 oz. In July and August, her milk was not kept separate from that of other cows. Weighed her milk (for one day) on the 7th of April; it weighed 43 lbs. 9 oz. On the 2d of September commenced weighing her milk; In four days it has averaged 25 lbs. 8 oz., and has made in four days just 5 lbs. of butter. My pasture through the season has been very poor and short, owing to the dry weather and having too much stock for the quantity of pasture. From the time this cow was turned to grass until this day, (9th September,) she has had by measure two quarts of Indian meal per day regularly."

To the above we may here add what Mr. Colman has more recently said of Ayrshire and North Devon cattle, (the two breeds imported by the Massachusetts Society,) being the result of inquiries and observation on the spot:

"The statement of a farmer in Stirlingshire, of the highest eminence, given to me, was that his Ayrshire cows, in the best of the season, averaged one pound of butter per day; that he has known two Ayrshire cows to make two pounds two ounces each per day; and that with him sixteen quarts of milk produced one pound of butter.

"The North Devon stock have some strong advocates as a milking stock. The most productive cow in butter which I have found was a North Devon, which, for several weeks

in succession, without extra feed, produced twenty-one pounds of butter per week. The character of the owner places the fact beyond a doubt. Mr. Bloomfield, the eminent tenant of Lord Leicester, after many years' experience, states that his North Devon cows will give an average of four pounds of butter per week through the year. One English pint of milk, as he adds, will produce one ounce of butter; that is, eight quarts will make a pound."\*

We must conclude what we have to say for the present about Ayrshires, with the following (which we find in the *American Agriculturist*) from Mr. Norton, Professor of Chemistry as applied to Agriculture, at Yale College. It is dated Edinburgh, 25th October, 1844:

"I found the Ayrshires generally the only breed in that part of Scotland; of course there are mixtures and crosses, but they very greatly prevail. The largest number of cows upon any of the farms which I saw was at Mr. John Tennant's, 6 miles from Ayr. He had about 90; some 30 of them, however, were fattening. Mr. Alexander, of Southbarr, has a fine dairy of about 40, at Wellwood, near Muirbirk. Mr. Fleming's, of Barrochan, is also worthy of notice. I was particularly pleased with that of Mr. Burnett, of Gadgirth, where every particular as to each churning is entered in a book kept for the purpose, so that a glance tells the quantity of cream or milk used, the weight of butter obtained, the time occupied in churning, and the temperature.

"**WEIGHT OF THE AYRSHIRES.**—On this point I could only obtain an approximation to a general rule. The average weight of Mr. Tennant's cows, as he informed me, is from 36 to 43 stones (about 500 to 600 lbs.) dead weight.—I found that the animals raised expressly for fattening, are almost invariably a cross with the Short-Horns. Every large farm that I visited, had a full-blood Short-Horn bull. *The improvement in shape and size from this cross is very great. They also mature much earlier.* Mr. Tennant

turns his off at two years old past, and says that they then weigh from 50 to 60 stones, or from 700 to 850 lbs. Two very important points are thus attained—*increase of size, with a gain of from 6 to 12 months in the time of maturing for market.* On some farms the Angus or Polled breed seemed to be favorites for fattening; and on others the small West Highlanders are bought in the autumn, and sold in the succeeding autumn, after a year's keeping on the rich lowland pastures.

"**MILKING QUALITIES.**—The Ayrshires, as you are probably aware, stand very high in this respect. Though they are small in size, their milk is abundant in quantity and remarkable for richness. Mr. Tennant stated that in the height of the season his cows yielded about 10 Scotch pints, or 30 English, per day, and that they averaged not far from 170 lbs. of butter per annum. Mr. Fleming, however, told me that on the best lowland pasture, a good cow yields 2,000 Scotch pints, 8 of which are considered equal to a pound of butter. This would be 240 lbs. per annum; on poorer or high land he would not expect more than 150 pints, or 180 lbs. butter, which would nearly agree with Mr. Tennant's statement. The Scotch pint is 3 English pints—350 to 400 lbs. of whole milk cheese is mentioned as a fair average."

Finally, on this as on other matters treated in this journal, we may safely say with Mr. Colman: "My business is with facts, and having no prejudices of

\* It is through Mr. Bloomfield that Mr. Patterson, of Springfield, Md., obtains a fresh Devon bull every two or three years. In reference to his last, which we recently saw in a field with twenty-six magnificent Devon cows and heifers, he was good enough at our request to give us the following extract from J. Bloomfield, Jr., dated 30th June, 1846:

"With respect to the bull, I consider myself very fortunate in being able to offer you an animal which will do us, as breeders, much credit. He is out of one of our best cows, by the bull I bought in Devonshire, and which is, I believe, a near relation to the bull which obtained the first prize of 20 sovereigns and the gold medal, at the Royal Agricultural Show last year—Mr. James Quartly, of Molland in Devonshire, being the breeder of both that and my bull's sire. A Mr. Bickett, from your county, sent out by the Massachusetts Agricultural Society to select cattle, saw him last summer, but he was unfortunately lame and could not go. Mr. B. took a four-months-old bull calf instead."

It is deemed useful to preserve such extracts as items of cattle history.



which I am conscious to warp my own views, I shall, as fairly as I can, state those facts which have come generally within my own observation, and leave the conclusions to the honest judgment of my readers." Far from presuming that we alone are privileged to know everything, and no one else anything, we are always but too glad to pick up information wherever we can find it, and every little we get only aggravates the desire for more.

## THE ENGLISH STANDARD OF FLOUR,

TO BE HAD FROM A QUARTER (EIGHT BUSHEL) OF WHEAT.

To the Editor of The Farmers' Library :

Dear Sir—I want it recorded, and I have taken the liberty of sending to you the following result of a quarter of wheat, ground at an English mill, which is a standard in England for all master millers or persons taking charge of the mill. If he cannot effect such a proportionate yield, he is at once discharged by his employer ; and I hope it will be thought of sufficient importance to find a place in THE FARMERS' LIBRARY. It was given to me by a very intelligent gentleman owning a large mill in this country, and who has visited England.

8 bushels of wheat, weight 61½ lbs. per bushel.....	lbs. 492
yield—6½ bushels flour, 56 lbs. per bushel.....	lbs. 364
Inferior flour.....	28
Fine middlings.....	11
Coarse middlings.....	17
Pollards (supposed to be fine ship-stuff).....	26
Bran.....	42
Waste.....	4
	—lbs. 492

I am truly yours,

JOHN TRAVERS.

The above Table gives what we call *practical information*, such as, editorially, we have all our lives aimed at. We consider such an item a far better lesson to be taught in our Common Schools, than one-half of the lessons in the history of bygone and barbarous times. What is the usual yield in American mills? We guess the Yankee miller can grind about as close as another man!

What farmer can tell what weight of food, green or dry, is to be extracted from land that will yield a given quantity of Indian corn? Have our Institutes or Societies prompted investigations of this character? Will any one make us a list of the premiums that have been given the past season for eliciting *new and important information in Agriculture?*

[Ed. Farm. Lib.]

## CROSSING BREEDS.

WE apprehend there is too much readiness to believe that better breeds of cattle than we now have may be made and maintained by crossing one distinct breed on another.

This we have always deemed an error. Of the existing breeds, one is better than another under all circumstances, according to locality, food, the purposes for which it is designed, &c. ; but it would be vain to attempt to form a new breed out of them, for, be the object what it may—the yoke, the dairy, the shambles, or what not—breeds have already been formed out of the best of other breeds, or natural races have been cherished and improved with reference to all these objects. Better then will it be, and a great saving of time, to hold on to

the breeds in existence, and endeavor to improve them, than to enter upon the formation of new ones by crossing one breed on another, in the hope of preserving out of each exactly what we want, and throwing off what don't suit us.—Doubtless we may take a bull of improved blood, and, by crossing, breed up a stock improved on the basis of the common cattle—that is, if we have recourse to the improved blood often enough to avoid breeding in-and-in.

But the whole system must be laid down with care, and followed with judgment, to prevent ultimate degeneracy. One reason why the progeny of so many imported bulls have deteriorated is that there has been too much close breeding—too much breeding in-and-in. Those who undertake to raise thorough bred must continue every two or three years to import a bull, as Mr. Patterson does—the best to be had, without respect to price—or they should obtain a bull from other stock in our own country, if to be had, as good as the best to be had abroad. This is the course, no doubt, that the Massachusetts Agricultural Society will adopt, or in a few years degeneracy will mark the descendants of their imported stock.

In England, sheep farmers, the best, don't pretend to rear their own rams.—They find it more to their advantage to hire choice rams from noted breeders who make a business of rearing the very best for that purpose. We are yet a great way from beginning to approach the high standard in skill and success in breeding domestic animals. Short cuts and short apprenticeships may do in other things, but not in this.

### COAL TAR :

#### ..TO WHAT USES APPLICABLE.

JOHN S. SKINNER, Esq.

NEW-ORLEANS, April 6, 1846.

*Dear Sir :* In answer to your request that I would make a statement to you of my experience of the uses to which coal tar can be applied, I beg leave to transmit you the following: Coal tar is a great preserver of timber. I have seen fence posts and pickets drawn from their places in which they had been driven ten years before, as sound as when first cut. They had been well saturated with coal tar. Coal tar mixed with sharp sand and a little lime, say a pint to a gallon, well stirred over a slow fire until it simmers, has been used with great effect upon shingle and other wooden roofs, and upon fence-rails. Two or three coats ought to be laid on, and when used it should be hot. Use a whitewash brush, and let each coat dry before applying the next. All iron-work painted with it is permanently preserved from rust. Any coloring matter may be thrown in while preparing it, to suit the taste.

I consider it a very valuable article on farms and plantations ; and what ought to recommend it particularly to farmers is its cheapness, its price not exceeding \$3 per barrel of 32 gallons. There are many other uses, no doubt, to which it might be applied besides those I have named. Hoping those pointed out may draw the attention of your readers,

I am, with great respect, your ob't serv't

JAMES H. CARDWELL.

**IMPROVED CANDLE-WICKS.**—An improved candle may be made by steeping cotton wicks in lime-water, in which a considerable quantity of saltpetre (nitre) has been dissolved. By this means is obtained a pure flame and a superior light ; a more perfect combustion is insured ; snuffing is rendered nearly as superfluous as in wax-lights ; and the candles thus made do not run or waste. The wicks should be thoroughly dry before they are covered with tallow, otherwise they will not burn with a uniform and clear light.

## APOLOGY OF THE PRAIRIES AS WOOL PRODUCERS.

JOHN S. SKINNER, Esq.:

OTTAWA, Illinois, Nov. 12, 1847.

Sir: Accidentally have fallen under my observation the Letters, published in your journal, from Mr. H. S. Randall, in which, with great appearance of candor, he has undertaken to consider the relative advantages of the various sections of the world as wool producers, and incidentally to compare, in this respect, the prairie regions with the more southern States of this Union.

I should hardly have ventured to appear in your Journal, in defence of anything Western, did I not anticipate from the agricultural community a more favorable reception than is generally accorded to us in social circles at the East, in which it is by no means a rarity for the lady, (as was the case with one of them, recently cast among us,) who, though so ignorant of life's wants and duties as to be compelled to ask whether the milk or the cream is churned to produce the butter, and to call in a hand from the farm to decide for her when the kettle comes to the boil, yet hesitates not to declaim against us, as wanting in the comforts and knowledge of life, and lacking in refinement of manners. Moreover, with something of pride for the land I love before all others, is mixed a desire to warn, from the dangerous experiment of competing, at the South, with wool producers on the Prairies, persons who might be misled by the remarks and statements of Mr. Randall, in estimating the advantages against which they would have to contend. For nowhere have I met with more formidable statements of facts, in themselves partially or entirely true, which, when combined, produced so dangerous a falsity; one of the best instances to prove that however safe it may be to speculate, and, with partial advantage, upon the capacities and political relations and destinies of countries, basing one's calculations and estimates upon the statements of others, yet it is dangerous to venture a heavy stake upon the correctness of our conclusions—so fatal to our reasonings and, in practice, to our profits may be variations or advantages, so slight or so minute in themselves as to have escaped the observation either of narrator or of his auditor.

The editors of the *Prairie Farmer*, published at Chicago, have laconically met the assertion of the incapacity of the Prairies in this respect by the ancient argument, "We do it—doeth the South also?" and upon this proof are content to rest.

This reply, however conclusive it may be, is not such as the elaborate and well-defined statements of Mr. Randall are entitled to, neither, indeed, in my opinion, is it justice to the prairies themselves—since the question at issue is not whether they can produce wool, but whether they can produce it in competition with the Southern States, if the latter shall choose to enter the lists.

To my own idea, the first, most broad and notable objection to the chain of reasoning adopted by Mr. Randall, in his comparison of the wool producing powers of the prairies and the South, is the fact that he does not apply to the investigation of their capacities the same tests which he finds important in deciding the relative claims of European countries, and which, in some cases, cause him to reject them without farther investigation. Of these tests, the most prominent is that of peculiarity of civil institutions. If, as he asserts, the character of the political condition of Turkey and of Spain is sufficient, in the mind of Mr. Randall, to decide against their competing with Hungary in this branch of Agriculture, I can account for his silence upon the same argument against the Southern States of the Union, upon no other supposition than that of a previously formed opinion having shut it from his sight.

This point, to me, is the more remarkable, because it is generally understood that we have yet to discover the first article, either of production or of manufacture, which the climate or position of the Free States will tolerate, in which the Slave regions have been able to bring their "cheaper labor" successfully and extensively to bear against the great guns of superior sagacity, skill and economy. And here I would remark that he errs vastly in supposing that the South,



as heavier capitalists than the North, are content with lesser profits; (no people require greater returns from capital invested;) and he also errs, in his estimate of their relative capital, in his losing sight of that great element of capital existing at the North, the *personal exertions* of the inhabitants.

But in addition to this of *per capita* capital, which Mr. Randall applies to the entire North, there are other and most numerous difficulties under which he considers the Prairie regions to labor, and I shall proceed to investigate their validity, applying at the same time the test of personal experience.

The first of these which occur to me, are his mistaken notions of our soil and herbage, peculiar as they are to the prairies. From some unknown property of the former, nearly all of the weeds and plants of this region possess an acidity and pungency which I believe is elsewhere unknown, and although it may be true that some of these plants are preferred and soon exterminated by sheep, yet it must not be inferred that they like and thrive upon no other. The wild pea and wild bean, (to which alone I understand Mr. Wight's remarks to apply,) are found in every newly settled part of our Union, and in all cases meet the same fate as here. Of the *wild grasses*, we have, it is true, more than one variety; but there is one which vastly predominates over all the others, and is changed materially in its appearance by the soil from which it accidentally springs. Thus, upon the peaks of the dry and sandy rolling prairies, it is short, fine in its leaf, and sparse in its stools, while, upon the fat valleys, bordering the streams, it becomes tall, rank and comparatively compact. Of this grass, while young and tender, sheep and other stock are excessively fond, passing, untasted, the choicest of timothy and clover to seek it. To keep a supply of this grass young and tender, all provident farmers and wool-growers arrange that system of "late burns," which the wording upon page 78 indicates Mr. Randall not to understand. For although each of our Western States prohibits the firing of the prairies, in the winter, as dangerous, yet no one here considers it nearly so hazardous to fire the dead grass, intermixed with the green growth of the present year, as is that practice, so common among farmers, the firing of stubble. Wherefore you will perceive it is no new "suggestion," either of Mr. Flower, or of Mr. Wight, of doubtful expediency. I burn two thousand acres, at least, in this way, every year; and it is by means of this practice, in connection with continuous depasturing, that I seek to accomplish that great desideratum with us, which Mr. Randall evidently considers almost fatal to the claims of the prairies as pasture grounds;—I mean the extirpation of the wild grasses. So far from this being an objection, herein lies one of the profits of Sheep Husbandry, on these plains, for, not only are the lands enriched by the droppings of the stock, but so completely are the long roots exhausted and destroyed by continuous burning and depasturing, that that plowing which, on page 79, is made to require from four to six yoke of oxen, is easily done by one. But the advantage stops not here, for Mr. R. is decidedly in error in his note to the same page,\* where he says that no practical farmer will credit the assertion that the seeds of the cultivated grasses will "catch" when sown "on the surface of the prairie sod," as may be satisfactorily demonstrated by an inspection of the extensive tame pastures, created in this manner, belonging to that most excellent practical farmer and grazier, Mr. Holderman, near this village. His pastures now cover fifteen hundred acres, nearly all under a single fence. The truth of this matter is, that so soon as the native grasses are destroyed, (which may be done, if properly followed up, in two or three years, or, if not, may require twenty,) the seed of the timothy, blue-grass or red-top being thickly sown, and afterward well harrowed or even well trodden in by a large stock of sheep or cattle, will soon mat the surface with as fine a crop of grass as our prairies will produce, and it is generally believed that, put in in this mode, the pastures are more durable.

Perhaps at this point I might be content to rest, satisfied in having corrected an error so material to his calculations as seriously to affect if not to settle the question of the advocated *superiority* of the South. But my hand being in, and not desiring the appearance of shrinking from objections, rained down in a storm

\*It is worthy of passing remark that Mr. Randall should have been so readily willing to believe and publish what he considers an objection to prairie pasturing, (that they soon are eaten out,) while he slurs over in a mere note another important advantage arising out of it, and casts great doubt and discredit on the fact itself, to wit: That the seeds of the tame grasses, or some of them, will catch, and seed down the unbroken sods of the prairie, if rightly applied.

upon page 80, I shall touch lightly upon those which appear to me to be peculiar to the prairies, and ask if such others as I find there, to wit: the cost of improved and fenced farms; the danger of diseases spreading extensively among unherded and wandering flocks; the certainty of stray and disowned bucks causing "winter lambs," if allowed to run at large; and the like, are not as applicable to the sunny South as the rigid North. And here, passingly, I remark that foul weeds, burs, Spanish needles, hoarhound and the like are rather more likely to prosper in the fields, and destroy the value of the wool of a region cultivated by that "cheaper labor," than in a region like this. Any wool grower knows the care and attention required to keep down these in a fertile region, whether North or South. The objections on page 80, which are applicable to the prairies alone, are the scarcity of timber and difficulty of procuring coal, and consequent costliness of fencing-stuff and fuel; the thickness or compactness of the settlements already made on this side of the Mississippi, and consequent limited range; and the greater extremes of heat and cold.

The first two of these are deficient in fact, since even in the most favored locations timber will not command more than ten dollars per acre, and very rarely can five be got, while I can point to hundreds of thousands of acres of prairie land to be had for one to two dollars per acre, with timber adjacent at a similar price, and coal cropping out from bluffs of half the streams entering the Illinois, to be had for the quarrying, which is worth about two or three cents per bushel. But, even where timber costs ten dollars per acre, a fence, suitable for protecting sheep pastures efficiently, may be constructed for thirty-five cents per rod, and by fencing large fields, 640 acres, (which should always be done here,) the cost of fencing a sheep farm may be kept within fifty cents per acre.

The idea of mining by shafts in a prairie is most undoubtedly fallacious; but I do not perceive how Mr. Randall reconciles the two assertions of a scarcity of fuel to an extent to affect the wants of a shepherd herding; and of a farming community already existing in the same country and being so dense as to limit his range, or cause his flocks to be interfered with by those of his neighbors. Mr. Randall to the contrary notwithstanding, I beg to be permitted to assure you such is not the case, in that tolerably extensive region lying between the eastern boundary of Illinois and the western of Missouri, and extending as far south as the Ohio River, and as far north as the British Possessions. And where Mr. R. supposes a man and horse with a brace of dogs might herd one thousand sheep, and have a little spare time, I find a boy of twelve years can successfully herd two thousand head with a single dog and without the horse.

As to the extremes of heat and cold, I do not think the case is fairly proven, so far as sheep are concerned, since it is not so much the extremes as sudden changes of temperature that affect them; and it must be noticed that under any circumstances the Tables introduced on this point by Mr. R. do not prove anything whatever, since all of the observations quoted, which he intends should represent the temperature at the South, are taken on the seaboard, where the ocean equalizes the temperature, and not in the interior, as is the case with those he intends should represent the temperature of the North. It is not on the seaboard of the South that he advocates the production of wool.

It is a matter of some surprise to me that Mr. R. should have admitted so freely as he appears to do the *present* healthfulness of sheep with us generally, and I do not perceive how he considers this to correspond with the opinion (expressed in Letter V., page 521) that the coarseness and rankness of our grasses unfit them for the growing of wool. He is evidently ignorant of the fact that the upland grasses here are far *finer* than the clover or the timothy, and that many of our most experienced wool-growers prefer the coarsest hay from the bottoms, as being not only cheaper, but heartier and better than any other. He need be under no apprehension on that score.

The scarcity of water and the length of the winters are undoubtedly valid objections so far as they go, and these I propose to consider in a future letter, but the remarks upon the mortality among sheep *driven* into this country, which Mr. R. says "is usually attributed to over-driving, poisoning, &c.," but is in reality caused by the temperature and climate, I consider another error. Had Mr. R. seen, as many here have, lumps of mud removed from the lungs of this class of sheep, and witnessed also the effects of poisonous plants taken into the

stomach, he would probably agree with the general opinion here. I have had under my charge, at the same time, healthy, well-driven stock from the county of Washington, Pennsylvania, and another over-driven from the county of Yates in your own State, and I am credibly assured by my shepherd and the butchers that they had no difficulty in distinguishing between the firm, plump flesh of the one, and the soft, flabby meat of the other. It is too well understood to be questioned now, and it may be regarded as an established fact, that the chief if not the only dangers to well attended flocks here, are the want of sufficient feed in fall, winter and spring, and careful driving in coming hither. The losses from these causes must not be laid to either climate or soil.

Your ob't serv't,

BRONSON MURRAY.

Since our last number we have had the pleasure to make acquaintance with the writer, and the boy referred to who, with a Scotch colley dog for his assistant, has charge and takes care of 2,000 sheep. Their fleeces of the last season brought 36 cents a pound. The writer supposes it will take half his wool to pay all charges, but then he has the lambs "in the bargain." When they get overstocked the custom is to let the surplus out for so much, or such a portion of the wool. Muttons are killed and dried up for the sake of their tallow, except the hind-quarters, which are salted and sold for what they will bring—a cent or two a pound. Is not ours a wonderful country!

[Ed. Farm. Lib.]

## EDUCATIONAL AND AGRICULTURAL COMMITTEES:

### THEIR CHARACTER AND DUTIES.

It was only after agricultural journals came into existence, and the farmers began to imagine that *they* too had an interest to be cared for, that legislative Committees were appointed in many of the States and in Congress. We are under the impression that the widely beloved and benevolent General SOLOMON VAN RENSSELAER was the first chairman of an Agricultural Committee of the House of Representatives, and in some States no such Committees are appointed to this day. The custom is to appoint such a Committee, and to have their names *blazoned, along with others, to the public*, and thus the vanity of small men is flattered by seeing their names in the papers as *members of a Committee*, and there the thing usually ends.

Of the rights of Agriculture, and of what legislation could do for it, while it is protecting and providing for every parasitical interest that lives on it, these wise and public-spirited law-makers know but little, and, if possible, care less. Thus session passes after session, and these drones draw their pay and go home without any, the slightest attempt, to investigate the condition, to weigh the burdens, or to understand the wants of the very interest which they themselves often with abject and unbecoming importunity solicited authority to *represent*.

The same may in general be said of *Committees on Education*. Where are the Reports, such as ought to be expected, from gifted and honorable men intrusted with the high office of legislation? Where are their Reports on the two greatest of all human concerns, *Education and Agriculture*? If nothing can be *done*, can't something be said, in their behalf? Are the systems provided for and in operation in reference to either of these two great interests of society, so perfect that nothing remains to be suggested or enacted by those who are deputed to watch over the political and social interests of the Commonwealth?



Are these gentlemen themselves so familiar with all the sources and springs of public prosperity that no farther inquiry or development is needed to enable them to perform understandingly the business of government. Let any one of them go into a school in his own county, and there obtain a *list of all the books* and a programme of the course of instruction and publish it, (as we intend to do the first leisure we can get,) and let the world judge whether *such education* is calculated to instruct and prepare the sons of farmers to enter on the business of their lives with any *knowledge of the principles* which every step in their career requires that they should understand? Take one of these members of an Agricultural Committee through a plain catechism as to the agricultural resources and condition of his own county, whose interests are confined to his keeping, as far as they depend on public legislation, and see how small he will sing—how cheap he will look! Ask him what provision has ever been made, or whether he proposes to make any for an *agricultural survey* of the State, that authentic statistics of each county may be at hand, without which, who can understand the bearing of the laws upon it—its burdens or its wants? Ask him, and it is ten to one he can't answer. How many acres in the county? Has it beds of lime, or marl, or coal, or iron? How much in timber—in mountain—in meadow—or in arable land? How many domestic animals—how many laborers—the cost of transportation, and how to be lessened? What are its average products, and with what charges are they burdened in the operations of exchanges until their ultimate values are realized? Yet ought not careful agricultural surveys to be provided for, which should bring to light every hidden resource, and indicate every known production and the capacity of *every county*? Is there any act of any State Legislature, for instance, whereby the Chairman of an Agricultural Committee (dumb as a fish as some of them are) can tell, even as to a single county, as much as we know of foreign countries. For example, we know that according to the most recent computation, England and Wales contain 37,738,930 acres; Ireland 19,441,954; Scotland 19,738,930; and other British Islands 1,119,159—making a total of 77,394,443. And then we know by means of forecasting, provident legislation, that these acres are thus appropriated:

	England and Wales.	Scotland.	Ireland.	British Islands.
Cultivated acres...	28,749,000	5,265,000	12,152,286	383,690
Improvable waste	3,984,000	5,950,000	4,900,604	166,690
Unimprovable ...	4,361,400	8,523,938	2,416,664	569,469
Total.....	37,094,400	19,808,988	19,446,964	1,119,159

In England and Wales 3,250,000 acres of land are in wheat; 4,500,000 in barley, oats, rye, peas &c.; 2,400,000 in grass and turnips; 2,100,000 in fallow; 17,500,000 in pasture; 18,000 in pleasure grounds; 1,200,000 in hedges, copses and woods; and 1,300,000 in roads, highways and water-courses.

Until these things are done for each State, and education expressly adapted to Agriculture provided for, how can members of Committees on these subjects reconcile it to themselves, as honest agents of the people, to lounge through a whole session, pocket their per diem, and go home without even an attempt to enlighten themselves or the public on the condition of these two great fundamental concerns of every State in this Union? What would they themselves say if on going back from the seat of Government to their homes, as many of them do reluctantly, like boys going back after a holiday to school, what would they say if they found that their overseers had in like manner neglected the matters committed to them; and yet you shall see the members of these Committees and the whole body of legislators, even adjourning from their proper business to

go, as at Annapolis, like "children of a larger growth," to see *cannon loaded and fired by the élèves of the Naval School*—a school where the privileged few get education and life commissions, at the cost of *their constituents*—yet they have not the courage—they dare not even inquire, (for we have tried them in three States,) *what is the cost of these military schools*, thus supported by the landed interest, and whether that interest might not be allowed to make so bold as to *petition* for some provision also for instruction in the art of *production*, as well as of *destruction*. But we have no patience to dwell on dereliction so palpable, on such abject political cowardice. The day we hope will come when some man will have the discernment and the manliness to demand for agricultural education, as for education in the science of human destruction, *at least dollar for dollar*.

For the present we took our pen merely to exhibit one token of an awakening disposition to assert the wants and the rights of Agriculture, as we find the agreeable proof of it in the Report of Mr. COAD of St. Mary's County, Maryland, Chairman of the Committee on Agriculture, in the last House of Delegates of that State. Honorable as was this preliminary movement to his patriotism and character as a legislator and statesman, it will be seen how cautiously he felt himself obliged to approach the subject, as if he were going to demand some great boon for the State, for the benefit of those who constitute the State and all on which its prosperity depends. Probably he held in prudent, as he must have held in contemptuous recollection, a certain memorial once addressed from ——— County in Maryland against the wisdom and necessity of any authorized *geological data, or exploration* of any part of the State! Were we not restrained by shame for our native state, we would put the self-stultifying document on record with the names of its illustrious signers; but let it be forgotten, with congenial Blue Laws, and laws for burning witches and Quakers!!

The allusion at the close of the Report, of which we have taken only a part, is to Hon. Mr. Naill, the zealous and enlightened Chairman of the Agricultural Committee in the Senate of that State.

It is scarcely necessary to add, so much is that a *matter of course*, that this proposition, being for the benefit of Agriculture, *it evaporated in smoke!* None the less honor, however, is due to the zeal and intelligence of its author. Let zealous, conscientious, enlightened and industrious men be in all cases selected with careful consideration, for these Committees on *Agriculture and Education*, (not mere drones, or young lawyers who go to State Legislatures as stepping-stones to higher places,—walking on the shoulders of farmers and planters into power, as soldiers up scaling-ladders into a fort)—and we may hope at last that *constant dropping will wear away stones*. Heartily as we approve the measure proposed, as far as it goes, we must take leave to add that it falls very short of what the landed interest of the State, in our poor judgment, has a right to *demand*, (demand of whom? of themselves;) and if the people—the bone and sinew, the planters and farmers of Maryland, were of our mind—much as we approve of the Naval School, and heartily as with our pen, for years, we endeavored to *have one located there*, yet no Representative in Congress from Maryland should dare vote one penny for that, or any other Military School, until Congress had provided, out of the sales of the Public Lands or otherwise, a fund for the establishment of a *Normal School for training teachers in the Sciences connected with Agriculture*. Suppose, for example, Strawberry Hill, which overlooks Annapolis, were purchased and established as an agricultural training

school and experimental farm, where Science might be proved and justified by practice, would it not be as useful to the country as a Military School? and would not the Representatives of the country be as well employed in going out to see the trial of new implements, and the results of scientific analyses and experiments, as they are now when they adjourn to see *cannon fired at Fort Severn*? Alas, what can be expected for the interests we advocate, as long as agriculturists consent to have themselves regarded as a *subordinate class*, and continue themselves to look on the learned and the military professions as *embracing men of a superior order*, of whom a *mere plain countryman should stand in awe*! But, to our extract from Mr. Coad's Report in favor of appointing an

#### AGRICULTURAL CHEMIST FOR THE STATE.

It is not to be expected that this measure will at once and alone cause to be diffused among the agriculturists of the State, that full and extended knowledge which it is hoped will be ultimately imparted. The committee regard it as an initiatory step, by which, from its partial advantages, the farmers throughout the State will be induced to place a proper estimate upon the true merits of a more enlarged system. They hope by its agency to lead those now actively engaged in cultivating the soil, to place within the reach of those who are to succeed them, and for whose interest and happiness they are chiefly stimulated to industry and exertion, the means of tilling it with greater success. It is also believed that immediate benefits will accrue to themselves, more than sufficient to compensate them and the State, for the trivial expense necessary to be incurred.

It is deemed unnecessary here to explain in detail, the manner in which a scientific and practical chemist could render efficient aid to the agricultural interest. It is, however, well known that the people have never yet had an opportunity, had they desired it, of becoming either theoretically or practically acquainted with the interesting subject which it would be his duty to unfold. And the most casual observer of such subjects cannot have failed to remark that vast sources of improvement, either unused or misapplied, are utterly valueless to their owners and to the State, on account of a deficiency of knowledge on this subject. Principles equally well established, and far more certain in their application, should govern the planter and the farmer in improving his land, and cultivating his crops, as regulate the physician in treating the diseased system or invigorating the weak constitution of his patient. Each variety of soil has its peculiar defects, which ought to be supplied; each kind of crop its best mode of cultivation, which ought to be understood. These are constantly varying according to circumstances, but are always regulated by unchanging principles. To inculcate these principles, and to impart the requisite knowledge to insure their proper application, comprise the whole sphere of his duties.

A certain number of constituent ingredients must necessarily be combined to produce a given crop. These, if they cannot be sup-

plied by the atmosphere, must be found in the soil. The farmer therefore, who wishes to produce such a crop, ought first to ascertain whether his land is deficient in any of the necessary constituents—for the absence of any one or more of them would defeat his expectations, and for that reason ought to be supplied. It may be that he has at his command different kinds of materials for improvement. Each of them may contain one, two or more of the component elements of the crop; but none of them all. If he select a kind which, although it may be rich in one or more of such components, yet, if it does not contain those in which his soil is deficient he will find his labor has been thrown away, his expectations disappointed, and all future efforts paralyzed or discouraged. A full knowledge of Agricultural Chemistry, and its practical application, would relieve a person so situated from all these difficulties and disappointments. He would then have known what combination of elements the product to be raised consisted of; which of them could be supplied by the atmosphere; and by analysis which of them would be furnished by the soil; and by that means, which, if any, he would be obliged to add. He could also ascertain the ingredients of each sort of material of improvement at his disposal; and hence be enabled to apply exactly the kind necessary to make up the deficiency.

Marl of the same kind has been found to act most beneficially on some soils, while on others it has either no decided effect or even a prejudicial one. On the same soil it has been found useful in the production of certain crops while others are injured by it. To the uninstructed in vegetable physiology and agricultural chemistry this is altogether unintelligible; while to one well informed on these most interesting subjects, it affords no mystery at all; it serves rather to open to his view the existence and harmonious operation of the immutable laws of Nature coëval and co-existent with Creation itself. He with almost unerring confidence might have foretold its effects; and been enabled to guard against its mischiefs and increase its usefulness. Place within the reach of the agriculturists of the State the means of being informed on these subjects, and let them be properly appreciated and used, and it is the decided conviction of this committee, that the annual produc-



tions of the State cannot fail to be largely increased. Let but the vast deposits of mineral, calcareous, and even vegetable materials for improvement be turned to the best advantage; and the true principles of practical Agriculture thoroughly understood, and the farming interests of Maryland will be second in point of profit to none other in the Union. The varieties of our soil, our climate and facilities of transportation cannot be surpassed, if equaled, by any other State.

To effect this, time is required—public sentiment must be prepared to appreciate the worth of such a system. And the measure proposed appears to the committee a proper introductory step, which even of itself will be productive of much practical good, and will bring about that first desirable result. When this shall have been effected, true economy will supply the means. Courses of agricultural education will be adopted in the public academies and schools; or schools for that especial purpose will be established. Agriculture will then be placed upon its proper level. It will no longer be regarded as a species of degrading drudgery, requiring neither education nor talent to understand and improve it; but will be inseparably connected with the highest branches of Natural Science upon which it is in truth dependent for its ultimate perfection.

It is only justice to add that the plan suggested first originated with a member of the Committee on Agriculture at the December session of 1840, whose zeal and exertions in behalf of this interest it should be the pleasure of every friend of Agriculture gratefully to acknowledge.

G. D. COAD, Chairman.  
PETER GRABILL,  
J. G. MORRISON,  
WM. E. DOYLE,  
A. H. SETH.

**A BILL** entitled, *an Act to provide for the appointment of an Agricultural Chemist for the State.*

**SECTION 1.** *Be it enacted by the General Assembly of Maryland,* That the Governor, by and with the advice and consent of the Senate, shall hereafter annually appoint and commission a person of ability, integrity, and suitable practical and scientific attainments as agricultural chemist for the State; and if the Senate shall have adjourned before the Governor shall make the appointment for the present year, or if a vacancy shall hereafter occur during the recess of the Senate, then the Governor alone shall make such appointment which shall be good and valid until the tenth day after the next meeting of the Senate.

**SEC. 2.** *Be it enacted,* That the State shall be divided into three districts; the first shall comprise that part of the State now comprised in the first gubernatorial district; the second that of the third gubernatorial district, and the third that of the second gubernatorial district.

**SEC. 3.** *Be it enacted,* That the said agricultural chemist shall spend one year, the

first beginning on the date of his appointment, in each of said districts in the order named; it shall also be his duty to spend one month in each county and Howard district, and visit each election district.

**SEC. 4.** *Be it enacted,* That it shall be the duty of said agricultural chemist to analyze one specimen of each variety of soil of the county in which he shall be, that may be brought to him, or that he may find to exist, and also to examine, and if necessary analyze one specimen of each kind of marl or other mineral or vegetable deposit that may come to his knowledge, in order that his instructions may be of the more practical utility.

**SEC. 5.** *Be it also enacted,* That it shall also be his farther duty to deliver one public lecture, after having given timely notice thereof, in each election district in each county, and then to deliver a course of public lectures at each county town after having given also sufficient notice thereof in each election district, and he shall also permit the clerk of the levy court or of the commissioners of the tax as the case may be, to take a copy of said course of lectures to be retained and kept for the use and benefit of the county, and published by said levy court or commissioners of the tax, if to them it shall seem expedient.

**SEC. 6.** *Be it farther enacted,* That for the full and more satisfactory discharge of his duties, the said agricultural chemist shall be authorized to employ an assistant, whose duty it shall be to aid him in collecting and analyzing specimens of soils, marls, &c. and to render him any other assistance he may deem advantageous.

**SEC. 7.** *Be it enacted,* That the said chemist shall make an annual report to the House of Delegates, if in session, and if not, then to the Governor (whose duty it shall be to cause the same to be published) of his proceedings, and such other matters touching the agricultural interests of the State as may be considered necessary.

**SEC. 8.** *And be it enacted,* That for the faithful discharge of his duties, the said agricultural chemist shall receive the annual salary of thirteen hundred dollars, and his assistant the annual salary of seven hundred dollars, to be paid as the salaries of other civil officers are or may be paid: and for the purchase of chemical implements and materials the said chemist shall be allowed for the first year the sum of five hundred dollars in advance, and on each succeeding year a sum not exceeding two hundred and fifty dollars, out of such moneys as may be in the Treasury and not otherwise appropriated by law.

**A NEW SUBSTITUTE FOR CORN.**—From authentic information, recently received from the Province of Pernambuco, it appears that *Farinha de Mandioca* (or *Casava*) may be obtained in any quantity. This article forms a highly nutritious and, when properly prepared, an extremely palatable description of food. In Pernambuco it is eaten by all classes of people, without exception, and its price varies from £1 12s. 5½d. to £1 19s. 8d. per imperial quarter

## LETTER XII.

## SUMMER MANAGEMENT OF SHEEP.

Tagging—necessity of—method of doing it...Burs—how avoided...Lambing—time of—Inclosures for—Mechanical Assistance—when rendered—assisting the Lamb—Feeding—necessary care in—Warming—Foster Ewes...Pens...“Pinning”...Numbering and Registering—advantages of—Von Thaër's System of Numbering—manner of doing it conveniently—Mr. Grove's form of a Register...Castration and Docking—proper time and method...Washing—time—necessary apparatus—“wetting”—manner of washing—ordinary waste in subsequent cleansing...Cutting the Hoofs—best time—implements—method...Time between Washing and Shearing...Shearing—proper conveniences for—catcher's business—directions to shearer—general directions...Shearing Lambs—shearing Sheep semi-annually—objectionable practices...Doing up Wool—Wool Table and Trough—handling fleece—arrangement on table—folding—rolling—tying—proper twine...Storing Wool—Wool-Room...Sacking Wool—methods...Sorting the Flock at shearing—how done...Marking Sheep—the proper way...Cold Storms after Shearing...Sun-scald...Ticks—how destroyed...Maggots—preventives...Cutting the Horns...Division of Flocks for Summer...Hopping—Clogging, &c...Dangerous Rams...Fences...Salt...Tar...Water...Shade...Weaning Lambs...Fall Feeding...Shepherd's Crook.

*Dear Sir :* Agreeably to your request, and that of various other Southern friends, I proceed to give directions for the practical management of sheep “plain and minute enough for the guidance of those entirely unacquainted with the subject.” I will begin with their Summer Management.\*

**TAGGING.**—If sheep are kept on dry feed through the winter, they will usually purge more or less, when let out to green feed in the spring. The wool around and below the anus becomes saturated with dung, which forms into hard pellets, if the purging ceases. But whether this takes place or not, the adhering dung cannot be removed from the wool in the ordinary process of washing. It forms a great impediment in shearing, dulling and straining the shears to cut through it when in a dry state, and it is often impracticable so to do. It is difficult to force the shears between it and the skin, without frequently and severely wounding the latter. Occasionally, too, flies deposit their eggs under this mass of filth prior to shearing, and the ensuing swarm of maggots, unless speedily discovered and removed, will lead the sheep to a miserable death.

Before sheep are let out to grass, each one should have the wool sheared from the roots of the tail down the inside of the thighs, over the surface included between the dotted lines in the cut. The wool should be sheared from off the entire bag of the ewe, that the newly dropped lamb may more readily find the teat, and from the scrotum, and so much space round the point of the sheath of the ram, as is usually kept wet. If the latter place is neglected, soreness and ulceration sometimes ensue from the constant maceration of the urine.

Sometimes each tagger catches and holds his own sheep, but it is, on the whole, better, I think, to have an assistant catch the sheep and hold them while they are tagged. The latter process requires a good shearer, as the wool must be cut off closely and smoothly, or the object is but half accomplished, and the sheep will have an unsightly and ridiculous appearance, when the remainder of their fleeces is taken off;

Fig. 16.



\* I have not thought it necessary to mark with quotation points, various extracts in this Letter, from a series of Letters written by me a number of years since, and published in the “Valley Farmer.”

and, on the other hand, it is not only improper to cut the skin of a sheep at any time, but it is peculiarly so to cut that on the bag of an ewe near lambing. The wool saved by tagging will far more than pay the expenses of the operation. It answers well for stockings and other ordinary domestic purposes, or it will sell for something like half the price of fleece wool.

Humanity and economy both dictate that care should be taken in handling sheep at all times, and it is especially important with ewes heavy with lamb. It is highly injurious and unsafe to chase them about and handle them roughly, for even if abortion, the worst consequence of such treatment, is avoided, they become timid and shy of being touched, rendering it difficult to catch or render them assistance at the lambing period—and even a matter of difficulty to enter the cotes where it is sometimes necessary to confine them at that time, without having them driving about pell-mell, running over their lambs, &c. It may not be known to every one, that if a sheep is suddenly caught by the wool when running, or is lifted by its wool, the skin is to a certain extent loosened from the body at the points where it is thus seized, and if killed a day or two afterward, blood will be found settled about those parts. A man knowing this, and subsequently guilty of such gratuitous brutality, richly deserves to be *kicked* out of the sheep-yard. When sheep are to be handled, they should be inclosed in a yard just large enough to hold them without their being crowded—so they shall have no chance to run and dash about. The catcher should stop them by seizing them by the hind leg close above the hock, or by clapping one hand before the neck and the other behind the buttocks. Then, not waiting for the sheep to make a violent struggle, he should throw his right arm over and about it immediately back of the shoulders, place his hand under the brisket, and *lift* the animal on his hip. If the sheep is very heavy, he can throw both arms around it, clasp his fingers under the brisket, and lift it up against the front part of his body. He then should set it carefully on its rump on the tagging-table, (which should be 18 or 20 inches high,) support its back with his legs, and hold it gently and conveniently until the tagger has performed his duty. Two men should not be permitted to lift the same sheep together, as it will be pretty sure to receive some strain between them. A good shearer and assistant will tag 200 sheep per day.

Where sheep receive green feed all the year round, as they will do in many parts of the South, and no purging ensues from eating the newly-starting grasses in the spring, tagging will not be necessary.

**BURS, &c.**—If sheep are let out in the spring into pastures where the dry stalks of the Burdock (*Arctium lappa*), or the Hound's Tongue, or Tory-weed (*Cynoglossum officinale*), have remained standing over the winter, the burs are caught in their now long wool, and, if numerous, the wool is rendered entirely unmarketable, and almost valueless. Even the dry prickles of the common and Canada thistles, where they are very numerous, get into the neck-wool of sheep, as they thrust their heads under and among them to crop the first scarce feed of the Northern spring; and, independently of injuring the wool, they make it difficult to wash and otherwise handle the sheep. The Burdock being a large and not very frequent plant, there is no excuse for its being found on the farm. The Hound's Tongue is very prevalent in forests and partly wooded pastures in the North, and it is not conspicuous enough to be easily eradicated, though careful sheep-farmers often do so. If sheep are let into pastures containing it, it must be only in the summer and fall, after shearing. The burs,



not sunk so deeply in the short wool, will wear out during our winters—but no man thinks of letting his sheep into pastures containing it, before shearing in the spring. Indeed, sheep should be kept on the cleanest pastures—those free from these and all similar plants—during this period; and, in a region where they are pastured the year round, if such pests are not eradicated—which *I* should consider indispensable—the sheep should be kept from contact with them for some months prior to shearing.

**LAMBING.**—Lambs are usually dropped, in the North, from the first to the fifteenth of May. In the South, they might safely come earlier. It is not expedient to have them dropped when the weather is cold and boisterous, as they require too much care; but the sooner the better, after the weather has become mild, and the herbage has started sufficiently to give the ewes that green food which is required to produce a plentiful secretion of milk. It is customary in the North to have fields of clover, or the earliest grasses, reserved for the early spring feed of the breeding ewes; and, if these can be contiguous to their shelters, it is a great convenience—for the ewes should be confined in the latter, on cold and stormy nights, during the lambing season.

If warm and pleasant, and the nights are warmish, I prefer to have the lambing take place in the pastures. I think sheep are more disposed to own and take kindly to their lambs thus, than in the confusion of a small inclosure. Unless particularly docile, sheep in a small inclosure crowd from one side to another when any one enters, running over young lambs, pressing them severely, &c. Ewes get separated from their lambs, and then run violently round from one to another, jostling and knocking them about. Young and timid ewes get separated from their lambs, and frequently will neglect them for an hour or more before they will again approach them. If the weather is severely cold, the lamb, if it has never sucked, stands a chance to perish. Lambs, too, when just dropped, in a *dirty* inclosure, in their first efforts to rise, tumble about, and the membrane which adheres to them becomes smeared with dirt and dung—and the ewe refuses to lick them dry, which much increases the hazard of freezing.

Nevertheless, all this must be incurred in cold storms, and in sudden and severe weather; and, therefore, it should be the effort of every shepherd to teach his sheep docility. I have seen the late Mr. Grove walk about a barn filled with his Saxons, not only without their crowding from side to side, but many of them absolutely lying still while he stepped over them! I say it "must be incurred." I mean by this that it is the safest course with all breeds, and a matter of *necessity* with others. It takes but a very moderately cold night to destroy the new-born Saxon lamb, which (the pure blood) is yeaned nearly as *naked* as a child! During a severely cold period, of several days' continuance, it is almost impossible to rear them, even in the best shelter. The Merino, South-Down, and some other breeds, will endure a greater degree of cold with impunity.

Inclosures, when used for yeaning, should be kept clean by frequent litterings of straw—not enough, however, thrown on at one time, to embarrass the lamb about rising.

The ewe does not often require mechanical assistance in parturition.—Her labors will sometimes be prolonged for three or four hours, and her loud moanings will evince the extent of her pain. Sometimes she will go about several hours, and even resume her grazing, with the fore-feet and nose of the lamb showing at the mouth of the vagina. But, if let alone, Nature will generally finally relieve her. This might not do with the

heavy English breeds. I should infer not, from the elaborate directions, in the premises, by Youatt, Blacklock, and other English writers on Sheep; though with the comparatively small number of these varieties which I have bred, I have had no difficulty in this particular. Among the thousands and thousands of fine-wooled sheep which I have bred, I never have known a single instance of a false presentation of the fœtus, and never have had mechanical assistance rendered in to exceed half a dozen instances. The objection to interfering, except as a last resort, is that the ewe is frightened when caught, and her efforts to expel the lamb cease.—When aided, the gentlest force should be applied, and only in conjunction with the efforts of the ewe.

While the lamb is tumbling about and attempting to rise, and the ewe is licking it dry, it is better to be in no haste to interfere. A lamb that gets at the teat without help, and gets even a small quantity of milk, knows how to help itself afterward, and rarely perishes. If helped, it sometimes continues to expect it, and will do little for itself for two or three days.—The same is true when lambs are fed from a spoon or bottle.

But if the lamb ceases to make efforts to rise, particularly if the ewe has left off licking it while it is wet and chilly, it is time for the shepherd to render his assistance. It is better not to throw the ewe down, as is frequently practiced, to suckle the lamb, because instinct teaches the latter to point its nose *upward* in search of the teat. It is doubly difficult, therefore, to induce it to suck from the bag of the prostrate ewe; and when taught to do this, by being suckled so several times, I have invariably noticed that it renders it awkward about finding the teat *in the natural position*, when it begins to stand and help itself. Nothing is stupider than a weakly lamb! Carefully disengaging the ewe from her companions, with his *crook*, the assistant should place one hand before the neck and the other behind the buttocks of the ewe, and, then pressing her against his knees, he should hold her firmly and stilly, so that she shall not be constantly crowding away from the shepherd. The shepherd should set the lamb on its feet, inducing it to stand, if possible; if not, supporting it *on its feet* by placing one hand under its body—place its mouth to the teat, and encourage it to suck by tickling it about the roots of the tail, flanks, &c., with a finger. The lamb, mistaking this last for the caresses of its dam, will redouble its efforts to suck. Sometimes it will evince great dullness, and even apparent obstinacy, in refusing for a long time to attempt to assist itself, crowding backward, &c.; but the kind and gentle shepherd, who will *not sink himself to the level of a brute by resenting the stupidity of a brute*, will generally carry the point by perseverance. Sometimes milking a little into the lamb's mouth, holding the latter close to the teat, will induce it to take hold.

If the ewe has no milk, the lamb should be fed until the natural supply commences, with small quantities of the milk of a *new-milch* cow. This should be mixed, say half and half, with water—with enough molasses to give it the purgative effect of biestings, or the first milk—gently warmed to the natural heat (not scalded and suffered to cool), and then fed through a bottle with a sponge in the opening of it, which the lamb should *suck*, if it can be induced so to do. If the milk is *poured* in its mouth from a spoon or bottle, as already remarked, it is frequently difficult afterward to induce it to suck. And, moreover, unless milk is poured in the mouth slowly and with care—no faster than the lamb can swallow—a speedy wheezing, the infallible precursor of death, will show that a portion of the fluid has been forced into the lungs. I have known lambs frequently killed in this way.

If a lamb becomes chilled, it should be wrapped up in a woolen blanket, and placed in a warm room—giving a little milk as soon as it will swallow. A trifle of pepper is sometimes placed in the milk, and I think with good effect, to rouse the cold and torpid stomach into action. Some of the *Yankee* old ladies, under such circumstances, “*bake*” the lamb, as it is called—*i. e.*, put it in a blanket in a moderately heated oven, until warmth and animation are restored. Others immerse it in tepid water, and subsequently rub it dry. This is said to be an excellent method where the lamb is nearly frozen. I never have tried it. A good blanket, a warm room, and sometimes, perhaps, a little gentle friction, have always sufficed.

If a strong ewe, with a good bag of milk, chances to lose her lamb, she should be required to bring up one of some other ewe’s pair of twins—or the lamb of some feeble or young ewe, having an inadequate supply of milk. Her own lamb should be skinned, as soon as possible after death, and the skin sowed over the lamb which she is required to foster. She will sometimes be a little suspicious for a day or two, and if so, she should be kept in a small pen with the lamb, being occasionally looked to. After taking well to it, the false skin may be removed in three or four days. If no lamb is placed on a ewe which has lost her lamb, and which has a full bag of milk, the milk should be drawn from the bag once or twice, or garget may ensue. If it does not, permanent indurations, or other results of inflammatory action will often take place, injuring the subsequent nursing properties of the animal. When milked, it is well to wash the bag for some time in cold water. It checks the subsequent secretions of milk, as well as abates inflammation. Garget will be treated under the head of Diseases of Sheep.

Sometimes a young ewe, though exhibiting sufficient fondness for her lamb, will not stand for it to suck; and in this case, if the lamb is not very strong and persevering, and especially if the weather is cold, it soon grows weak and perishes. The conduct of the dam in such cases is occasioned by inflammatory action about the bag or teats—and, perhaps somewhat by the *novelty* of her position! In this case the sheep should be caught and held until the lamb has exhausted the bag, and there will not often be any trouble afterward, though it may be well enough to keep them in a pen together until the fact is determined.

I have several times spoken of *pens*. They are necessary in the cases I have mentioned, and in a variety of others. It is therefore well for the flock-master to be always provided with a few of them for emergencies. They need not be to exceed eight or ten feet square, and should be built of light materials, and fastened together at the corners, so they can be readily moved by one, or, at the most, two men, from place to place, where they are wanted. Their position should be daily shifted when sheep are in them, for cleanliness and fresh feed. Light pine poles, laid up fence fashion, and each nailed or pegged to the lower ones, at the corners, as laid on, would make excellent ones. Two or three sides of a few of them should be wattled with twigs, and the tops partly covered to shelter feeble lambs from cold rains, piercing winds, &c.

Young lambs are subject to what is technically called “pinning,”—that is, their first excrements are so adhesive and tenacious that the orifice of the anus is closed, and subsequent evacuations prevented. The adhering matter should be entirely removed, and the part rubbed with a little dry clay to prevent subsequent adhesion. Lambs will frequently perish from this cause if not looked to for the first few days.



NUMBERING AND REGISTERING.—This is not absolutely necessary for the *wool-grower*, though it is, in many points of view, a vast convenience to him, and leads to a degree of system in his efforts after improvement, and gives a definiteness and precision to the execution of his plans, otherwise unattainable. But the *breeder*—he who makes it his business more particularly to raise choice animals to sell for breeding purposes—is unworthy of the name, if he does not regularly number and register his sheep, so that he can trace the descent of any ram or ewe, through any number of generations. This is not merely to gratify an idle curiosity, or to furnish a purchaser with a sounding pedigree. Every breeder is under the necessity of directly breeding in-and-in, or of occasionally employing new strains of blood. If the latter step is often resorted to, the hazard is increased of changing the character of the flock.\* If he numbers and registers his sheep, he can breed “closer,”† and consequently longer, without a change, without the hazard of confusion or mistake. Where half a dozen, or even three or four rams are used in the flock the same year, it would be beyond the power of any breeder, relying on his memory alone, to decide, six or eight or ten years subsequently, which were the daughters, grand-daughters, and great-grand-daughters of each. If the rams A and B be unrelated, A may be put to the daughters of B, and then B be put to the produce, (*i. e.*, his own grand-daughter, got by A,) without “close” breeding—because they possess but *one-quarter* of the same blood. Then the great-grand-daughter may be again put to A, because she possesses but one-quarter of *his* blood. As I remarked in my last Letter, with *three* strains of blood to start with, the breeder may ring innumerable changes, without ever trenching on that line which marks the boundaries of close breeding. He who pretends that he can preserve such multiplied classifications in his memory alone, is unworthy of the least confidence.

There is another very important consideration. Numbering and registering enables the breeder to trace *breeding effects* definitely to their *causes*. Suppose that he finds that an unusual number of his young ewes are poor nurses—or exhibit some imperfection of form or wool. He can remove the *present effect* by throwing out the defective ones. But the undiscovered *cause* may still remain in operation. It may be a particular ram, or the result of interbreeding between such ram, and ewes of a certain strain of blood. If this ram, or *perhaps others got by him*, be permitted to breed, or breed with a particular class of ewes, the evil creeps along in the flock, its cause remaining undiscovered. But if the breeder could fix the precise pedigree of every sheep, from an accurately kept register, he would soon ascertain what strains of blood, or the conjunction of what strains, produced the evil. By the same means, he could as readily trace the sources of particular excellence.

The system of numbering invented by the celebrated Von Thaër is far preferable to any other which I have seen.‡ It is as follows: ||

\* A ram of a new strain of blood, though of prime quality, and apparently possessing the same characteristics with the flock, does not always interbreed well with the flock in all those minute particulars which the *breeder* is bound to notice, though they might escape the eye of the ordinary flock-master. Every breeder, therefore, who has a flock that suits him, is exceedingly averse to an infusion of new blood, and resorts to it only as a matter of necessity.

† That is, he can breed in-and-in somewhat. “Close” breeding is breeding between *near* affinities, such as between brother and sister, which are of the *same* blood, or between a father and a grand-daughter begotten on a daughter, which would be three-fourths of the same blood, &c.

‡ It will not cause half the mutilation of the system given in the American Shepherd—is simple, and gives the *age*, which the former does not. Neither can this system of giving the *age* be ingrafted on that system of numbering.

|| As furnished me by Mr. Grove, a number of years since, with this exception, that the point of the right ear cut square off, he made to stand for 700 instead of 500, as I have placed it. I made this change, as the notch and clip standing for 100 and 400, coming on the point of the same ear, there was no combination to express 500.

One notch over the left ear, (that which is on your left when the face of the sheep is *from* you,) stands for 1; two notches over the same, for 2. One notch under the left ear stands for 3. Three such notches carry up the number to 9. One notch over the right ear stands for 10; two such for 20. One notch under the same stands for 30; and three such for 90. Combinations of the above (three notches under each ear) would carry up the number to 99. These four classes of notches which express all parts of a hundred, are shown in the first of the annexed cuts. A sheep marked like fig. 17 would be No. 44.



No. 44—1841.

A notch in the end of left ear, as in fig. 18, stands for 100; in right do. 200. In addition to these there are on the same cut two 1 notches, one 3 notch, one 10 do., and two 30 do. Adding the whole together, the sheep would therefore be No. 375.



No. 375—1843.

As the 100 and 200 notches, together, make 300, no separate notch is required for the latter number. The point of the left ear cut square off, as in fig. 19, cut, stands for 400; the point of the right cut square off, for 500. The latter and the 100 notch would make 600, and so on.



No. 909—1848.

The lambs of each year and *each sex* are numbered from 1.

The age is expressed by round *holes* through the ears, standing for the year in which the sheep is born. As there is no possibility of making a mistake of *ten* years in the age of a sheep, these marks are the same between each tenth year of the century. Between 1840 and 1850, *no* hole would express 1840; one hole in the left ear, 1841; two holes in the left ear, 1842; one hole in the right ear, 1843; one hole in the right and one in the left, 1844; one hole in the right and two in the left, 1845; two in the right, 1846; two in the right and one in the left, 1847; two in each, 1848; three in the right, 1849; none in either, 1850—and the same for the next ten years. Examples are given in the preceding cuts. In other words, one hole in the left ear signifies 1, and one in the right 3, as applied to the years between each tenth of a century—and the combinations of these holes are made to express all the intermediate years, with the exception of the tenth.

Every ewe, when turned in with the ram, should be given a mark (entirely distinct from the mark of ownership) which will continue visible until the next shearing. Nothing is better for this purpose than Venetian Red and hog's lard, well incorporated, and marked on with a cob. The ewes for each ram require a differently shaped mark, and the mark should also be made on the ram, or a minute of it in the sheep-book. Thus it can be determined at a glance by what ram the ewe was tupped, any time before the next shearing.

The holes in the ears, indicating the year, being the same on the whole annual crop of lambs, may be made at any convenient time. The holes are most conveniently made by a saddler's spring-punch, the cutting cylinder of which is about  $\frac{3}{16}$  of an inch in diameter. If too small, the holes will grow up in healing.

In numbering, it is difficult to prevent mistakes, if it is deferred until

the lamb attains much size. If penned with the dams when a month or two old, hours will sometimes elapse before each lamb will suck—the only *certain* indication to which ewe it belongs. It being perfectly safe to perform this process when the lamb is only about a day old (or as soon as the lamb can walk, if it is a strong one), the shepherd carries the *notcher* in his pocket, and a little book, each page being ruled into six columns, and headed as in the register presently given. This constitutes the *day-book*, which is subsequently drawn off on the Register.

The *notcher* which I use is of my own invention, and I have found it far preferable to any I have seen elsewhere. It consists of a saddler's spring-punch—the cutting cylinder being taken out, and a little sharp chisel of the same length being screwed in its place. The edge of the chisel describes a semi-ellipsis, cutting a notch out of the ear  $\frac{1}{4}$  of an inch deep, and a little over  $\frac{3}{16}$  wide at the base. A triangular cut in the ear, with so narrow a base, will grow together for some distance from the apex. This instrument is far more convenient than a chisel and block.

The shepherd, on finding a lamb of the right age to mark, goes quietly up to it, stopping it by the *neck* with his *crook* if it attempts to run away. The ewe will come near enough, in a moment or two, to be secured by the *crook*, and then the shepherd notes her number and age, and enters it in his pocket-book, and also by what ram tugged. The lamb then is numbered with the *notcher*, and this and its general appearance is noted down in the appropriate columns. If the ewe is too wild to be caught, the lamb may be notched—the number of the sire, &c., entered—and the number of the ewe subsequently ascertained in the pen.

I have two forms of Breeding Registers, originally furnished me by my lamented friend, the late Mr. Grove. One contains ten columns, the other eight. I have adopted the simplest one, omitting two of the columns, which leaves the Register in the following form :

BREEDING REGISTER—1845.

No. of Dam.	Tupp'd by Ram No.	Date of Lambing.	No. of Rams.	Lamb. Ewes.	Classification and Remarks.
22—40	16—39	May 4.	1		{ Coarsish—wrinkly—thick, short-legged, and stout—bad crops—ewe plenty of milk, and kind.
50—41	25—42	May 4.		1	{ Fine—thin—long-legged—wool short—will lack constitution—ewe kind—little milk.
6—42	7—43	May 5.	2 & 3		{ Small, but of good shape and fine wool—No. 3 wrinkly and like sire—No. 2 more like dam.—Ewe plenty of milk, but careless.
11—41	7—43	May 5.			{ The lamb was born dead, very small. Same last year. This ewe had better be thrown out of breeding.

The first entry above records the following facts : “ The ewe No. 22, born in 1840, tugged by the ram No. 16 of 1839, dropped on the 4th of May a ram lamb, which was marked No. 1, its character being as described under the head of ‘ Classification and Remarks.’ ”

The column of “ Remarks ” is a very important one, if the minutes are made with accuracy and judgment. It should include an enumeration of all the prominent characteristics of the lamb, and of the appearances of the ewe as a breeder and nurse. These records will, in a single season, decide the character of a ram as a stock-getter, and that of the ewe, in a year or two, as a breeder and nurse.

EMASCULATION AND DOCKING.—These should usually precede washing, as at that period the oldest lambs will be about a month old, and it is safer to perform the operations when they are a couple of weeks younger.—Dry, pleasant weather should be selected. Castration is a simple and safe



process. Let a man hold the lamb with its back pressed firmly against his breast and stomach, and all four legs gathered in front in his hands.—Cut off the bottom of the pouch, free the testicle from the inclosing membrane, and then draw it steadily out, or clip the cord with a knife, if it does not snap off at a proper distance from the testicle. Some shepherds draw both testicles at once with their *teeth*. It is common to drop a little salt into the pouch. Where the weather is very warm, some touch the end of the pouch (and that of the tail, after that is cut off) with an ointment, consisting of tar, lard, and turpentine. In ninety-nine cases out of a hundred, however, they will do just as well, here, without any application.

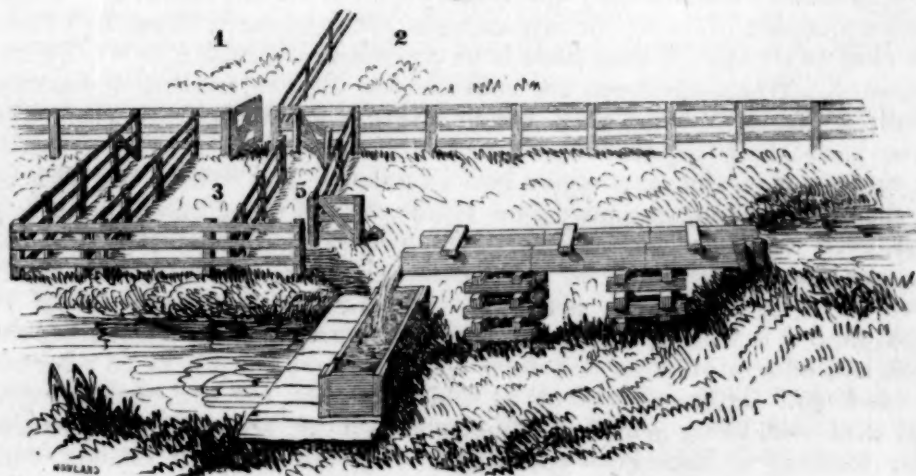
The tail should be cut off, say one and a half inches from the body, with a chisel on the head of a block, the skin being slid up toward the body with a finger and thumb, so that it will afterward cover the end of the stump. Severed with a knife, the end of the tail being grasped with one of the hands in the ordinary way, a naked stump is left which it takes some time to heal.

It may occur to some unused to keeping sheep, that it is unnecessary to cut off the tail. If left on, it is apt to collect filth, and, if the sheep purges, it becomes an intolerable nuisance.

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**WASHING.**—This is usually done here about the first of June. The climate of the Southern States would admit of its being done earlier. The rule should be to wait until the water has acquired sufficient warmth for bathing, and until cold rains and storms, and cold nights, are no longer to be expected.

Sheep are usually washed by our best flock-masters in vats. A small stream is dammed up, and the water taken from it in an aqueduct (formed by nailing boards together), and carried until sufficient fall is obtained to have it pour down a couple of feet or more into the vat. The body of water, to do the work fast and well, should be considerable—say 24 inches wide, and five or six deep—and the swifter the current the better. The vat should be say  $3\frac{1}{2}$  feet deep, and large enough for four sheep to swim in it. A yard is built near the vat, and a platform from the gate of the yard extends to and encircles the vat on three sides. This keeps the washer

Fig. 20.



WASHING APPARATUS.

from standing in the water, and makes it much easier to lift the sheep in and out. The cut here given exhibits all the necessary appendages. The

yard is built opposite the corners of two fields (1 and 2), to take advantage of the angle of one of them (1), to drive the sheep more readily into the yard (3). This yard should be large enough to hold the whole flock, if it does not exceed 200; and the bottom of it, as well as of the smaller yard (5), unless well sodded over, should be covered with coarse gravel, to avoid becoming muddy. If the same establishment is used by a number of flock-masters, graveling will be always necessary. As soon as the flock are confined in yard 3, the lambs are all immediately caught out from among them, and set over the fence into yard 4. This is to prevent their being trampled down, as it often happens, by the old sheep, or straying off if let loose. As many sheep are then driven out of yard 3 into the smaller yard 5 as it will conveniently hold. A boy stands by the gate next to the vat, to open and shut it (or the gate is drawn shut with a chain and weight), and two men, catching the sheep as directed under the head of tagging, commence placing them in the water for the preparatory process of "wetting." As soon as the water strikes through the wool, which occupies but an instant, the sheep is lifted out and let loose.\* The vat should, of course, be in an inclosed field, to prevent their escape. The whole flock should thus be passed over, and again driven round through field 1 into yard 3, where they should stand, say, an hour, before washing commences. There is a large per centage of potash† in the wool oil, which acts upon the dirt, independently of the favorable effect which would result from thus soaking it for some time with water alone. If washed soon after a good shower, previous wetting might be dispensed with; and it is not *absolutely necessary*, perhaps, in any case. If the water is warm enough to keep the sheep in it for the requisite period, they may be got clean by washing without any previous wetting—though the snowy whiteness of fleece which *tells* so on the *purchaser*, is not so often nor so perfectly attained in the latter way. Little time is saved by omitting "wetting," as it takes proportionably longer to wash, and it is not so well for the sheep to be kept such a length of time in the water at once.

When the washing commences, two and sometimes four sheep are plunged into the vat. When four are put in, two soak while two are washed. But this should not be done, unless the water is very warm, and the washers are uncommonly quick and expert. On the whole, it is rather an objectionable practice, for few animals suffer as much from the effects of a chill as sheep. If they have been previously wetted, it is wholly unnecessary. When the sheep are in the water, the two washers commence kneading the wool with their hands about the breech, belly, &c., (the dirtier parts,) and they then continue to turn the sheep so that the descending current of water can strike into all parts of the fleece. As soon as the sheep are clean, which may be known by the water running entirely clear, each washer seizes his own by the fore parts, plunges it deep in the vat, and taking advantage of the rebound, lifts it out, setting it gently down on its breech on the platform. He then, if the sheep is old or weak, (and it is well in all cases,) presses out some of the water from the wool, and after submitting the sheep to a process presently to be adverted to, lets it go. There should be no mud about the vat, the earth not covered with sod, being graveled. Sheep should be kept on clean pastures from washing to shearing—not where they can come in contact with

\* Where there are conveniences for so doing, this process may be more easily performed by driving the sheep through a stream deep enough to compel them to swim. But *swimming* the compact-fleeced, fine-wooled sheep for any length of time, as is practiced with the Long-Wools in England, will not properly cleanse the wool for shearing.

† Vauquelin, quoted by Youatt, says that it consists mostly of soapy matter with a basis of potash; 2. Carb. of potash; 3. Acetate of potash; 4. Lime; 5. Muriate of potash.

the ground, burnt logs, &c.—and they should not be driven over dusty roads.

The washers should be *strong and careful* men, and protected as they are from anything but the water running over the sides of the vat, they can labor several hours without inconvenience, and without drinking whisky until they cease to know whether a sheep is well washed or well treated, as was the bad old fashion. Two hundred sheep will employ two expert men not over half a day, and I have known this rate much exceeded.

It is a great object, not only as a matter of propriety and honesty, but even as a matter of profit, to get the wool clean and of a snowy whiteness. It will always sell for more than enough extra, in this condition, to offset against the increased labor and the diminution in weight.

Mr. Lawrence wrote me, a few years since, that the *average* loss in American Saxon wool, in scouring, (after being washed on the back,) was 36 per cent., and in American Merino 42½ per cent.!

**CUTTING THE HOOFS.**—The hoofs of fine-wooled sheep grow rapidly, turn up in front and under at the sides, and must be clipped as often as once a year, or they become unsightly, give an awkward, hobbling gait to the sheep, and the part of the horn which turns under at the sides holds dirt or dung in constant contact with the soles, and even prevents it from being readily shaken or washed out of the cleft of the foot in the natural movements of the sheep about the pastures, as would take place were the hoof in its proper shape. This greatly aggravates the hoof-ail, and the difficulty of curing it—and in England it is thought to *originate* the disease.

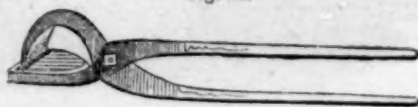
It is customary to clip the hoofs at tagging, or at or soon after the time of shearing. Some employ a chisel and mallet to shorten the hoofs, but then the sheep must be subsequently turned on its back to pare off the projecting and curling-under side crust. If the weather be dry, or the sheep have stood for some time on dry straw, (as at shearing,) the hoofs are as tough as horn, and are cut with great difficulty—and this is increased by the grit and dirt which adheres to the sole, and immediately takes the edge off from the knife.

The above periods are ill chosen, and the methods slow and bungling. It is particularly improper to submit heavily pregnant ewes to all this unnecessary handling at the time of tagging.

When the sheep is washed and lifted out of the vat, and placed on its rump on the platform, the gate-keeper advances with a pair of *toe-nippers*, and the washer presents each foot separately, pressing the toes together so they can be severed at a single clip. The nippers shown in the cut, can be made by any blacksmith who can temper an ax or chisel. They must be made strong, with handles a little more than a foot long, the rivet being of half-inch iron and confined with a nut, so that they may be taken apart for sharpening. The cutting edge should descend upon a strip of copper inserted in the iron, to prevent it from being dulled. With this powerful instrument, the largest hoofs are severed with a moderate compression of the hand. Two well-sharpened knives, which should be kept in a stand or box within reach, are then grasped by the washer and assistant, and with two dexterous strokes to each foot, the side crust (being free from dirt, and soaked almost as soft as

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Fig. 21.



TOE-NIPPERS.



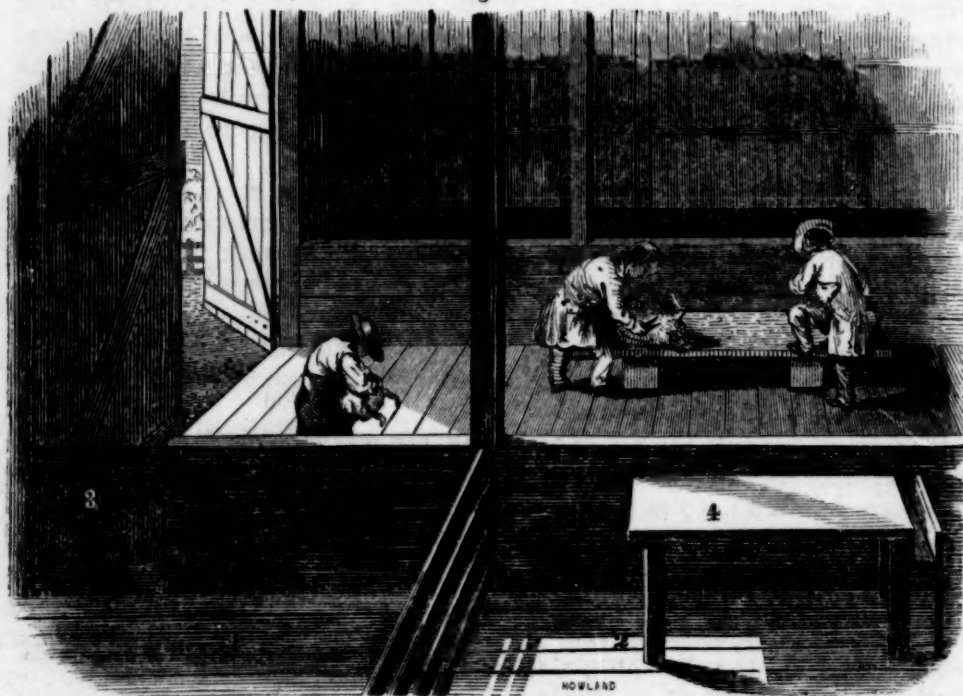
a cucumber,) is reduced to the level of the soles. Two expert men will go through these processes in less time than it will take to read this description of them!

The closer the paring and clipping, the better, if blood is not drawn. An occasional sheep may require clipping again in the fall.

**TIME BETWEEN WASHING AND SHEARING.**—This depends altogether on circumstances. From four to six days of bright warm weather is sufficient. If cold and rainy, or cloudy, more time must elapse. I have known the wool to remain in an unfit condition to shear a fortnight after washing. The rule is, the water should be thoroughly dried out, and the natural oil of the wool should so far exude as to give the wool an unctuous feel and a lively, glittering look. If you shear it when dry, like cotton, before the oil has exuded, you cheat yourself, and the wool will not keep so well for long periods.\* If you leave it until it gets too oily, you cheat the manufacturer, or what more often happens, you lose on the price.

**SHEARING**—Is always done, in this country, on the threshing-floors of our barns, sometimes on low platforms, but more commonly on the floor itself. The following cut represents a common Northern barn properly arranged for this purpose.

Fig. 22.



SHEARING ARRANGEMENTS.

On the threshing-floor, three men are seen shearing—two of them using a low table or platform, say 18 or 20 inches high. The "bay"† (1, 2) nearest the eye is divided by a temporary fence, one part (1) being used for the yarding of the sheep, and the other (2) for doing up the wool, &c. The inclosure 1 should communicate by a door with another and larger yard outside of the barn. Both of these should be well littered down with

\* It is also very difficult to thrust the shears through this dry wool in shearing.

† The room for storing hay, grain, &c., which is always found on one, and sometimes on each side of the threshing-floor in a Northern barn, is provincially termed a "bay"—and the low division between this and the threshing-floor a "breastwork."

straw, and fresh straw thrown on occasionally, to keep the sheep clean while shearing. No chaff, or other substances which will stick in the wool, should be used for this purpose. When the dew has dried off from the sheep, on the morning chosen for shearing, a portion of the flock sufficient to last the shearers half a day, is driven into the outside yard, and a convenient number into the bay (1). An assistant catches the sheep, lifts them off from the floor as already directed, and delivers them at the door through the "breastwork" (3) to each shearer. The shearer before taking the sheep, picks off any loose straws sticking to its wool, and if dung adheres to any of the feet, brushes it off with a little besom formed of twigs, hung up near the door for that purpose. The shearer then takes the sheep to his stand, and commences shearing.

The floor or tables used for shearing should be planed or worn perfectly smooth, so that they will not hold dirt or catch the wool. They all should be thoroughly cleaned, and, if necessary, washed, preparatory to shearing. It is the catcher's business to keep the floor constantly swept, dung removed, &c. Having a *new* stand or place swept for the shearer who has just finished his sheep, he catches him another, and then clears up the stand previously occupied. He first lifts the fleece, gathers it up so that it shall not be torn or drawn asunder, and turning his arms so as to invert it, (*i. e.*, bring the roots of the wool downward,) deposits it on the *folding-table* (4). He then picks up the "fribs" (small loose locks) left on the floor, which are deposited in a basket or on a corner of the table. Lastly, he sweeps the spot clean, to be again occupied by the shearer. An active fellow will tend four shearers, and do up the fleeces. But he should not be hurried too much, or he cannot give sufficient time to doing up. A small boy or two are handy to pick up fribs, sweep, &c.

If there are any sheep in the pen dirty from purging or other causes, they should first be caught out, to prevent them from dirtying the others.

It is difficult, if not impossible, to give intelligible practical instructions which would guide an entire novice in skillfully shearing a sheep. Practice is requisite. The following directions from the American Shepherd,\* are correct, and are as plain, perhaps, as they can be made:

"The shearer may place the sheep on that part of the floor assigned to him, resting on its rump, and himself in a posture with one (his right) knee on a cushion, and the back of the animal resting against his left thigh. He grasps the shears about half-way from the point to the bow, resting his thumb along the blade, which affords him better command of the points. He may then commence cutting the wool at the brisket, and proceeding downward, all upon the sides of the belly to the extremity of the ribs, the external sides of both thighs to the edges of the flanks; then back to the brisket, and thence upward, shearing the wool from the breast, front, and both sides of the neck—but not yet the back of it—and also the poll or fore part, and top of the head. Now the 'jacket is opened' of the sheep, and its position and that of the shearer is changed, by being turned flat upon its side, one knee of the shearer resting on the cushion, and the other gently pressing the fore quarter of the animal, to prevent any struggling. He then resumes cutting upon the flank and rump, and thence onward to the head. Thus one side is complete. The sheep is then turned on to the other side, in doing which great care is requisite to prevent the fleece from being torn, and the shearer acts as upon the other, which finishes. He must then take his sheep near to the door through which it is to pass out, and neatly trim the legs, and leave not a solitary lock anywhere as a harbor for ticks. It is absolutely necessary for him to remove from his stand to trim, otherwise the useless stuff from the legs becomes intermingled with the fleece-wool. In the use of the shears, let the blades be laid as flat to the skin as possible, not lower the points too much, nor cut more than from one to two inches at a clip, frequently not so much, depending on the part and compactness of the wool."

In addition to the above, I would remark that the wool should be cut off as close as conveniently practicable, and even. It *may* be cut *too close*, so that the sheep can scarcely avoid "sun-scald," but this is very unusual.

\* Pages 179, 180.  
(649)

If the wool is left ridgy and uneven, it betrays that want of workmanship which is so distasteful to every good farmer.\* Great care should be taken not to cut the wool twice in two, as inexperienced shearers are apt to do. It is a great damage to the wool. It is done by cutting too far from the point of the shears, and suffering the points to get too elevated. Every time the shears are pushed forward, the wool before cut off by the points, say a quarter or three-eighths of an inch from the hide, is again severed. To keep the fleece entire, so important to its good appearance when done up, (and therefore to its salableness,) it is very essential that the sheep be held easily *for itself*, so that it will not struggle violently. To hold it still by main strength, no man can do, and shear it well. The posture of the shearers should be such that the sheep is actually confined to its position, so that it is unable to start up suddenly and tear its fleece, but it should not be confined there by severe pressure or force, or it will be constantly kicking and struggling. Heavy-handed, careless men, therefore, always complain of getting the most troublesome sheep. The neck, for example, may be confined to the floor by placing it between the toe and knee of the leg on which the shearers kneels, but the lazy or brutal shearers who let his leg rest directly on the neck, soon provokes that struggle which the animal is obliged to make to free itself from severe pain, and even perhaps to draw its breath!

Good shearers will shear, on the average, twenty-five Merinos per day, and a new beginner should not attempt to exceed from one-third to one-half that number. It is the last process in the world which should be hurried, as the shearers will soon leave more than enough wool on his sheep to pay for his day's wages.

It has been mentioned that but enough sheep should be yarded at once for half a day's shearing. The reason for this is that they shear much more easily, and there is less liability of cutting the skin, when they are distended with food, than when their bellies become flabby and collapsed for the want of it. This precaution, however, is often necessarily omitted in showery weather. It is very convenient to have the outside pen which communicates with the "bay," covered. On my farm, it is one of the regular sheep-houses. If it is showery over night, or showers come up on the day of shearing, a couple of hundred sheep may be run in and kept dry. And they can be let out to feed occasionally during the day on short grass. If let out in long wet grass, their bellies will become wetted. Wool *ought* not to be sheared, and *must* not be done up, with any water in it.

**SHEARING LAMBS, AND SHEARING SHEEP SEMI-ANNUALLY.**—Shearing lambs is, in my judgment, every way an abominable and unprofitable practice—in this climate, at least. The lamb will give you the same wool at a year old, and you strip it of its natural protection from cold when it is young and tender, for the paltry gain of the *interest* on a pound or a pound and a half of wool for six months—not more than two or three cents—and this all covered by the expense of shearing.

I am aware that it is customary, in many parts of the South, to shear grown sheep twice a year; and there may be a reason for it where they receive so little care that a portion are expected to disappear every half-year, and the wool to be torn from the backs of the remainder by bushes, thorns, &c., if left for a longer period. But when sheep are inclosed, and

\* I hold that man is not *half* a farmer who has not a dash of the æsthetic mixed up with his utilitarianism. Profit should not often be sacrificed to appearances, but where they are strictly compatible, he who disregards the latter betrays a sordid and uncultivated mind.

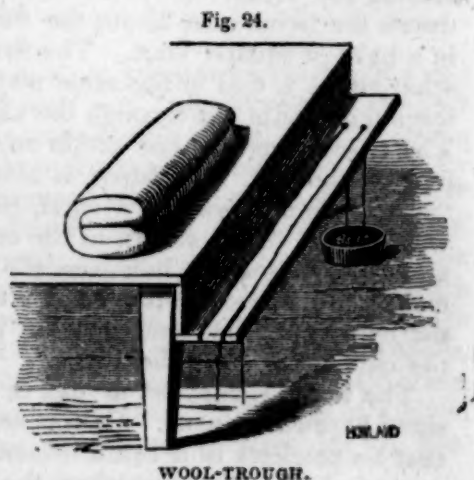
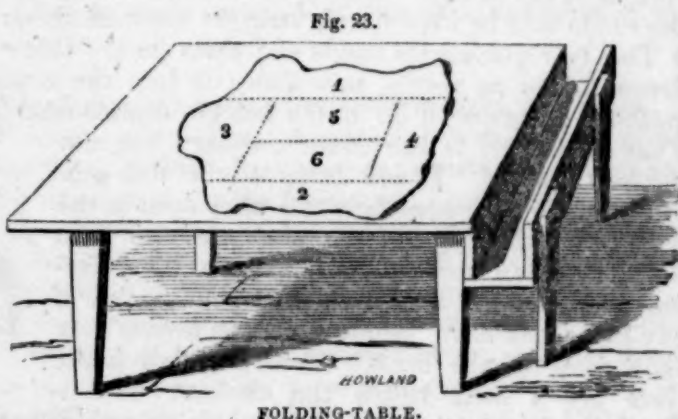


treated as domestic animals, there may be less barbarity in fall-shearing them than in the case of tender lambs, but I cannot conceive of any better reason for it than in the former case, on the score of utility. Any gain resulting from it cannot pay the additional expense it occasions.

**DOING-UP WOOL.**—The fleece has been deposited on the "folding table," and he whose business it is to do it up, first proceeds to spread it out, the *outer ends upward*, bringing every part to its natural relative position.—

The table, with a fleece spread out on it, is represented in fig. 23. The table should be large—say five feet wide and eight long—that, if necessary, several *unspread* fleeces may be put upon it at the same time, and still give room for spreading one. It should be about three feet high. After the fleece

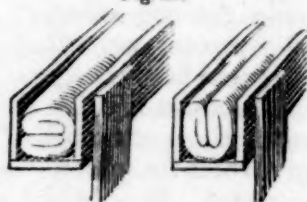
is spread, dung, burs, and all other extraneous substances are carefully removed from it with a pair of shears. It is then pressed together with the hands, so that it will cover but little if any more space than it would occupy on the skin of the animal, if that was placed *unstretched* on the table. About a quarter of the fleece, lengthwise, or from head to tail, (represented by 1 in the above cut,) is then turned or folded in (*inverting* it,) toward the middle. The opposite side (2) is next folded inward in the same way, leaving the fleece in a long strip, say 18 inches wide. The forward end (3) is then folded toward the breech, to a point (represented by dotted line) corresponding with the point of the shoulder. The breech (4) is next folded toward the head. The fleece now presents an oblong square represented by 5 and 6. On the breech, in a small, compact bunch—so they can be, subsequently, readily separated from the fleece—the clean fribs are placed. They do not include "trimmings," (the wool from the shanks,) which should not be done up in the fleeces. The fribs may be laid in at some earlier stage of the folding—but if thrown on top of the fleece, as is very customary, before it is folded at all, they *show through*, if the latter gets strained apart, as it frequently happens in the process of rolling—and being coarser and perhaps less white than the fine shoulder wool, they injure the appearance of the fleece. The fleece is now folded together by turning 5 over on to 6, and the tyer carefully sliding it around on the table with his arms, so that the shoulder shall be toward him, it appears as in fig. 24, ready to go into the wool-trough. The wool-trough, which is above represented



with one of its sides off, to exhibit the interior arrangement, should form a part of the table, and should be about  $9\frac{1}{2}$  inches wide and 9 deep, and its length corresponding with the width of the table, would be five feet. Near its back end, and about one-third of its width from each side, gimlet holes are bored just large enough for the passage of ordinary wool-twine. Two balls of twine are placed in a vessel beneath, the ends passed through the holes, and the whole length of the trough, and are fastened in front by being drawn into two slits formed by sawing a couple of inches into the bottom of the trough. The holes and slits should be small enough, so that the twine will be kept drawn straight between them.

The tyer placing his hands and arms (to the elbow) on each side of the fleece folded as above, now slides it into the trough. There are two methods of having it lie in the trough, represented by the following cuts. That on the left is the more ordinary, but not the best method. It will bring to the two *ends* of the done-up fleece (the parts most seen in the wool-room) the ridge of the back and two lines half way down each side of the sheep. The former is sometimes a little weather-beaten, and if any hay-seeds have fastened in the fleece, they show most on the back.\* And the two lower lines are a little below the choicest wool.—

Fig. 25.



Placing it in the trough as in the right-hand figure, rolling would bring both ends of the fleece from the wool between four and five inches from the ridge of the back, the choicest part of the fleece. Besides, the edges of the breech fold, which is not so fine as the shoulder, which sometimes show by the first method of rolling, are always concealed by the last.

The wool being in the trough, the tyer steps round to the back end of it, and commences rolling the fleece from the breech to the shoulder. He rolls it as tightly as possible, pressing it down and exerting all the strength of his hands—minding, however, not to tear the outside fold—or strain it so apart as to exhibit the *outer ends* of the next inside layer or fold. When the rolling is completed, he keeps it tight by resting the lower part of his left arm across it, reaches over with the right, and withdrawing one of the ends of the twine from the slit, places it in the left hand. Then seizing the twine on the other side of the fleece with his right hand, he draws the twine once about the fleece with his *whole strength*, and ties it in a hard or square knot. The fleece will then keep its position, and the other twine is tied in the same way. The twines should be drawn with a force that would cut through the skin of a tender hand in a few moments.† The twines are then cut within an inch of the knots, with a pair of shears. The fleece is *slid* out of the *end* of the trough, when it will be a solid, glittering mass of snowy wool, in the shape shown in the cut on the right. If well and tightly done up, however, the divisions given on the end of the fleece, in the cut, to exhibit the foldings, will not be perceptible—and nothing but an unbroken mass of the choicest wool of the fleece.

Fig. 26.



FLEECE.

The twine should be of flax or hemp, and of the diameter of ordinary sized hardware twine. Cotton might do, if smooth and hard enough so that no particles of it could become incorporated with the wool—in which event it does not separate from the wool in any of the subsequent processes, and receiving a different color from the dyes, spots the surface of the cloth.

\* Hay-seed, or rather its chaff, will not wash entirely out of wool.

† It is customary with some tyers to wear a glove on the right hand—or cots on the two fore-fingers.

It is scarcely necessary to remark that it is considered perfectly fair by the purchaser, to take all the pains above recommended, to "put the best side out" in doing up wool, provided every fleece is done up by itself. He expects it, and graduates his prices accordingly. He who neglects it, therefore, cheats himself. But to do up coarser fleeces, or any parts of them, in finer ones—put in "trimmings"—leave in dung—or use unnecessary twine—are all base frauds. Sometimes the careless sheep-owner will have his wool filled with burs, which he cannot or will not remove. In that case he is bound to unequivocally apprise the buyer of the fact, and allow him to open fleeces until satisfied of the precise extent of the evil.

**STORING WOOL.**—Wool should be stored in a clean, tight, dry room. It is better that it should be an *upper* room, for reasons presently to be given, and it should be plastered, to exclude dust, vermin, insects, &c. Rats and mice love to build their nests in it, to which they will carry grain chaff and other substances, injuring much wool—and it is singular that if accessible to the common bumble-bee, numbers of their nests will be found in it. A north and pretty strong light is preferable for a wool-room.

When the wool-tyer removes each fleece from the trough, he places it in a long, high basket, capable of holding a dozen fleeces, and it is immediately carried to the wool-room—or he piles it on the clean floor in the inclosure in which his table stands, to be subsequently carried away. In either case, the fleeces are not thrown down promiscuously, which injures their shape, but are laid regularly one above another, on their sides. In the wool-room it is laid in the same way in smooth, straight north and south rows (supposing the light to be let in from the north) with alleys between, in which a man can pass to inspect the wool. The rows ought not, perhaps, to be more than two deep, so that the end of *every* fleece can be examined, but as it cannot be piled up more than about four fleeces high in this way, without liability of falling, it is customary to make the rows three or four fleeces deep—laying the lower ones a little wide, so that the pile may slightly recede as it goes up. In this way they may be piled six fleeces high. Where the character of the flock is known, or that of the seller relied on, it makes little difference. It is considered fairest to pile the fleeces without any discrimination as to quality, in the wool-room.

**SACKING WOOL.**—When the wool is sold, or when it must be sent away to find a market, it is put up in bales nine feet long, formed of 40-inch "burlaps." The mouth of the sack is sowed, with twine, round a strong hoop (riveted together with iron, and kept for the purpose,) and the body of it is let down through a circular aperture in the floor of the wool-room.\* The hoop rests on the edge of the aperture, and the sack swings clear of the floor beneath. A man enters the sack, and another passes the fleeces down to him. After covering the bottom with a layer, he places a fleece in the center and forces down others around it, and so on to the top, which is then sowed up. Each fleece should be placed regularly with *the hands*, and then stamped down as compactly as possible, so that the bale when completed shall be hard and well filled in every part. The bulk of a given weight of wool will be greatly affected by the care with which this process is performed.

Those who do not expect buyers to come and look at their wool, sack it immediately after shearing. A temporary scaffolding is erected near

\* It is to secure this convenience that the wool-room is best placed on the second floor.



the wool as deposited by the tyer, and one man tosses up fleeces to a second, who catches them and passes them down to the man in the sack. A light frame, to suspend the sack, and *part way up it* a standing-place for the catcher, would be a convenient appendage to the establishment of a wool-grower who does not store his wool in a wool-room. With a set of stairs up to his midway standing-place, an active fellow would keep the treader supplied, without any assistance.

In the absence of any agreement, the price of wool, delivered at the residence of the purchaser, does not include the cost of sacks and sacking. It is customary, however, for growers of small parcels, and those who keep no conveniences for sacking, to carry their wool tied up in sheets, &c., and deliver it to the purchaser at the nearest village or other point, where he has made arrangements for sacking.

**SELECTION.**—The necessity of annually weeding the flock, by excluding all its members falling below a certain standard of quality, and what the points are to which reference should be had in establishing that standard, have already been sufficiently adverted to in discussing the principles of breeding. The time of shearing is by far the most favorable one for the flockmaster to make his selection. He should be present on the shearing-floor, and inspect the fleece of every sheep as it is gradually taken off. If there is a fault about it, he will then discover it better than at any other time. A glance, too, reveals to him every fault of form, previously concealed wholly or in part, by the wool, as soon as the newly shorn sheep is permitted to stand on its feet. He takes down the number and age of the sheep on his tablet, and if not sufficiently defective in form or quality of fleece to call for its condemnation, in a pair of scales suspended near the wool-tyer's table, he determines the weight of the fleece. If this, too, is satisfactory, he marks "*retained*" opposite the sheep's number on his tablet. If more or less defective in any point, he weighs this against the other points—taking also into consideration the age of the sheep, its character as a breeder, its nursing properties, quietness of disposition, &c.—and then, in view of *all* these points, the question of retention or exclusion is settled. A remarkably choice ewe is frequently kept until she dies of old age. A poorish nurse or breeder would be excluded for the lightest fault, and so on. I have been in the habit, for a number of years, of using a book kept for this purpose, each page being ruled and headed thus :

Number.	Qual. of Fleece.	Form.	Wt. of Fleece.	Conclusion.
27, '42	p.	f.	4½	r.
30, '44	o.	b.	4	e.

The figures in the first column signify No. 27 of the year 1842, and No. 30 of the year 1844. The letters in the succeeding columns stand for the words "prime," "fair," "ordinary," and "bad"—marking the gradations of quality. The letters in the last column signify "*retained*," or "*excluded*." Such a record will lead to far greater accuracy than by any other method, and it is extremely valuable for purposes hereafter to be stated.

If the sheep are not numbered, the flock-master should note each appearance, as above directed, have the sheep held by the neck by an assistant, or discharged by the shearer into a small pen at the door for that purpose, until the fleece is weighed, and then if he decides to exclude it, he gives it a small mark on the shoulder, consisting of Venetian Red and hog's lard, (conveniently applied with a brush or cob.)

**MARKING SHEEP.**—The sheep should be marked soon after shearing, or mistakes may occur. Every owner of sheep should be provided with a marking instrument, which will stamp his initials, or some other distinctive mark, such as a small circle, oval, triangle, square, &c., at a single stroke, and with *uniformity*, on the sheep. It has been customary here, to have the mark cut out of a plate of thin iron, with an iron handle terminated by wood. But one made by cutting a type or raised letter (or character) on the end of a stick of light wood, such as pine or basswood, is found to be better. If the pigment used be thin, and the marker be thrust into it a little too deeply, as often happens, the surplus will not run off from the wood, as from a thin sheet of iron, to daub the sides of the sheep, and spoil the appearance of the mark; and if the pigment be applied *hot*, the former will not, like the latter, get heated, and increase the danger of burning the hide. Various pigments are used. Many boil tar until it will assume a glazed, hard consistency, when cold, and give it a brilliant black color by stirring in a little lamp-black when boiling. It is applied when just cold enough not to burn the sheep's hide, and it forms a bright, conspicuous mark the year round. I have always used this, though the manufacturer would prefer the substitution of oil and turpentine for tar, as the latter is cleansed out of the wool with some difficulty. I boil it in a high-sided iron vessel (to prevent it from taking fire) on a small furnace or chafing-dish near where it is to be used. When cool enough, forty or fifty sheep can be marked before it gets too stiff. It is then warmed from time to time, as necessary, on the chafing-dish. The rump is a better place to mark than the side. The mark is about as conspicuous on the former, under any circumstances, and it is more so when the sheep are huddled in a pen, or when they are running away from you. And should any wool be injured by the mark, that on the rump is less valuable than that on the side. It is customary to distinguish ewes from wethers by marking them on different sides of the rump.

Many mark each sheep as it is discharged from the barn by the shearer. It consumes much less time to do it at one job, after the shearing is completed; and it is necessary to take the latter course, if a hot pigment is used.

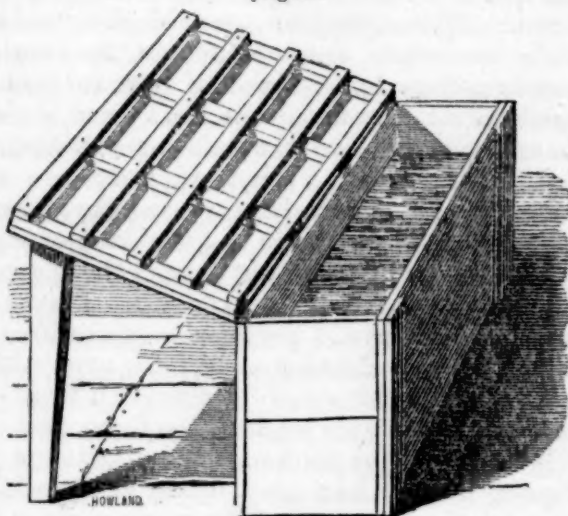
**COLD STORMS AFTER SHEARING.**—These sometimes destroy sheep, in this latitude, soon after shearing—particularly the delicate Saxons. I have known forty or fifty perish out of a single flock, from one night's exposure. The remedy, or rather the preventive, is to house them, or in default of the necessary fixtures to effect this, to drive them into dense forests. I presume, however, this would be a calamity of rare occurrence in the "sunny South."

**SUN-SCALD.**—Might be more common. When sheep are sheared close in very hot weather—have no shade in their pastures—and particularly where they are driven immediately considerable distances, or rapidly, over burning and dusty roads, their backs are so scorched by the sun that the wool comes off. It is not common, however, here. You may see one such in a flock of a hundred. Let alone, the matter is not a serious one, but the application of refuse lard to the back will accelerate the cure, and the starting of the wool.

**TICKS.**—These, when very numerous, greatly annoy and enfeeble sheep in the winter, and should be kept entirely out of the flock. After shearing, the heat and cold, the rubbing and biting of the sheep soon drive off

the tick, and it takes refuge in the long wool of the lamb. Wait a fortnight after shearing, to allow all to make this transfer of residence. Then boil refuse tobacco leaves until the decoction is strong enough to kill ticks beyond a peradventure. This may be readily tested by experiment. Five or six pounds of cheap plug tobacco, or an equivalent in stems, &c., may be made to answer for 100 lambs. The decoction is poured into a deep, narrow box, kept for this purpose, and which has an inclined shelf one side, covered with a wooden grate, as shown in the cut. One man holds the lamb by the hind legs, another clasps the fore-legs in one hand, and shuts the other about the nostrils to prevent the liquid entering them, and then the lamb is entirely immersed. It is immediately lifted out, laid on one side on the grate, and the water squeezed out of its wool. It is then turned over and squeezed on the other side. The grate conducts the fluid back into the box. If the lambs are regularly dipped every year, ticks will never trouble a flock.

[Fig. 27.]



DIPPING-BOX.

The effect of tobacco water in scab, will be hereafter adverted to.

**MAGGOTS.**—Rams with horns growing closely to their heads, are very liable to have maggots generated under them, particularly if the skin on the surrounding parts gets broken in fighting, and these, if not removed, soon destroy the sheep. Both remedy and preventive is boiled tar—or the marking substance heretofore described. Put it under the horns, at the time of marking, and no trouble will ever arise from this cause. Sometimes when a sheep scours in warm weather, and clotted dung adheres about the anus, maggots are generated under it, and the sheep perishes miserably. Preventive: remove the dung. Remedy: remove the dung and maggots, the latter by touching them with a little turpentine, and then apply sulphur and grease to the excoriated surface.

Maggot flies, says Blacklock, sometimes deposit their eggs on the *backs* of the long, open-wooled English sheep, and the maggots during the few days before they assume the pupa state, so tease and irritate the animal, that fever and death are the consequence. Tar and turpentine, or butter and sulphur, smeared over the parts are given as the preventives. The Merino and Saxon are exempt from these attacks.

**SHORTENING THE HORNS.**—A convolution of the horn of a ram sometimes so presses in upon the side of the head or neck, that it is necessary to shave or rasp it away on the under side, to prevent ultimately fatal effects. The *point* of the horn of the ram and ewe both not unfrequently turn in so that they will grow into the flesh and sometimes into the eye, unless shortened. The toe-nippers will often suffice on the thin extremity of a horn, but if not, a fine saw must be used. The marking time is the best one to attend to this.



**DIVISION OF FLOCKS.**—It is customary at, or soon after shearing, to make those divisions in large flocks, which utility demands. It is better to have not to exceed two hundred sheep run together in the pastures, though the number might perhaps be safely increased to three hundred, if the range is extensive. Wethers and dry ewes to be turned off, should be kept separate from the nursing-ewes, and if the flock is sufficiently numerous to require a third division, it is customary to put the yearling and two-year-old ewes and wethers and the old, feeble sheep together. It is better in all cases to separate the rams from all the other sheep, at the time of shearing, and to inclose them in a particularly well-fenced field. If put even with wethers, they are more quarrelsome, and when cool nights arrive, will worry themselves and waste their flesh in constant efforts to ride the wethers. The Merino ram is a quiet animal compared with the common-wooled one, but poor fences, or fences half the time down, will tempt him to jump, and if once taught this trick, he becomes very troublesome as the rutting period approaches, unless hopping, yoking, clogging, or "poking" is resorted to—either of which causes the animal to waste his flesh and strength, and are the causes of frequent accidents.

**HOPPLING, CLOGGING, &c.**—Hopping is done by sowing the ends of a leathern strap (broad at the extremities so that it will not cut into the flesh) to a fore and hind leg, just above the pastern joints—leaving the legs at about the natural distance apart. Clogging is fastening a billet of wood to the fore leg by a leather strap. Yoking is fastening two rams two or three feet apart, by bows around their necks, inserted in a light piece of timber, say two by three inches in size. Poking is done by inserting a bow in a short bit of light timber, into which bit (worn on the under side of the neck) a rod is inserted which projects a couple of feet in front of the sheep. These, and similar devices, to prevent rams scaling fences, may be employed as a last resort, by those improvident farmers who prefer by such troublesome, injurious, and at best, insecure means, to guard against that viciousness which they might, so much more easily, have prevented from being acquired.

**DANGEROUS RAMS.**—From being teased and annoyed by boys, or petted and played with when young—and sometimes without any other stimulant than a naturally vicious temper—rams occasionally become very troublesome by their propensity to attack men or cattle. I know of one for which his owner has refused \$250, which will permit no man to enter the field with him without making an immediate onset on him. I have known several that would knock down the ox or horse which presumed to dispute the possession of a lock of hay with them. A ram which is known to have acquired this propensity should at once be hooded, and, if not valuable, at the proper season converted into a wether by "cording." But the courage thus manifested, is usually the concomitant of great strength and vigor of constitution—and of a powerfully developed frame. If good in other particulars, it is a pity to lose the services of such an animal. I have in several such instances hooded them, by covering their faces with leather in such a manner that they could only see a little backward and downward. They must then, however, be kept apart from the flock of rams, or they will soon be killed or injured by blows, which they cannot see to escape.

It sometimes happens that a usually quiet tempered ram will suddenly exhibit some pugnacity when you are salting or feeding the flock. If you turn to run, you are immediately knocked down, and the ram learns, at

that single lesson, the secret of his mastery, and the propensity to exercise it. The ram giving his blow from the summit of the frontal bone on the *top* of the head, (and not from the forehead,) couches his head so low when he makes his onset, that he does not see forward well enough to swerve suddenly from his right line, and a few quick motions to the right and left enable you to escape him. Run in upon him, as he dashes by you, with pitchfork, club, or *boot-heel*—punishing him severely by blows, (about the head if the club is used,) and giving him no time to rally until he is thoroughly cowed.\*

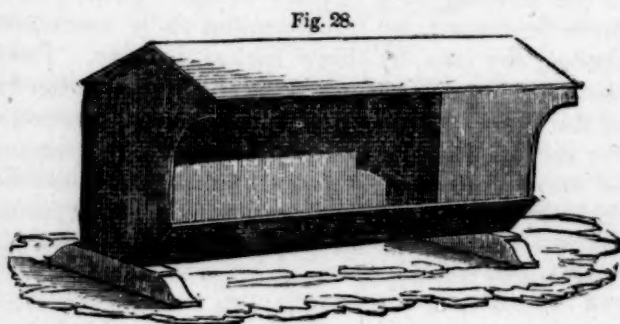
**FENCES.**—Poor fences will teach ewes and wethers to jump, as well as rams, and for a jumping *flock* there is no remedy but immoderately high fences, or extirpation. One jumper will soon teach the trick to a whole flock, and if one by chance is bought in, it should be immediately hopped or killed. The last is by far the surest and safest remedy.

**SALT.**—Salt, in my judgment, is indispensable to the health of sheep, particularly in the summer—and I know not a flock-master among the hundreds, nay, thousands with whom I am acquainted, who differs with me in this opinion. It is common to give it once a week while the sheep are at grass.

It is still better to give them free access to salt at all times, by keeping it in a covered box, open on one side, like the following:

A large hollow log, with holes cut along the side, for the insertion of the heads of the sheep will make a respectable substitute. A sheep having free access to salt at all times, will never eat too much, and it will take its supply when and in what quantities Nature demands, instead of eating voraciously at stated periods, as intermediate abstinence will stimulate it do.

When fed but once a week, it is better to have a stated day, so that it will not be forgotten, and it is well to lay the salt on flat stones, though if laid in little handfull on the grass, very little will be lost.



SALTING-BOX.

**TAR.**—This is supposed by many to form a very healthful condiment for sheep. The nose of the sheep is smeared with it, and it is licked and swallowed as the natural heat of the flesh, or that of the weather, causes it to trickle down over the nostrils and lips. Others, suffering the flock to get unusually salt hungry, place tar upon flat stones, or in troughs, and then scatter salt on it, so that both shall be consumed together. Applied to the nose, in the nature of a cataplasm, I have no doubt that it is advantageous in catarrhs—and put on the same place, at the proper periods, it may perhaps, by its odor, repel the visitations of the fly (*Æstris ovis*), the eggs of which produce the “grub in the head.” As a *medicine* it may be valuable, and even as a *detergent* in the case specified, but as a condiment

\* This may be pronounced harsh “measure for measure,” and some may think it would tend to increase the viciousness of the animal. Repeated instances have proved the contrary to me. And if their mastery is once acknowledged, it is never forgotten by them.

simply, for a perfectly healthy animal, I confess I have no confidence in its utility.

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**WATER.**—Water is not indispensable in the summer pastures, the dews and the succulence of the feed answering as a substitute. But my impression is decided that free access to water is advantageous to sheep, particularly to those having lambs; and I should consider it a matter of importance on a sheep farm, to arrange the pastures, if practicable, so as to bring water into each of them.

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**SHADE.**—No one who has observed with what eagerness sheep seek shade in hot weather, and how they pant and apparently suffer when a hot sun is pouring down on their nearly naked bodies, will doubt that, both as a matter of humanity and utility, they should be provided, during the hot summer months, with a better shelter than that afforded by a common rail fence. Forest-trees are the most natural and best shades, and it is as contrary to utility as it is to good taste to strip them entirely from the sheep-walks. A strip of stone-wall or close board fence on the south and west sides of the pasture, will form a passable substitute for trees. But in the absence of all these, and of buildings of any kind, a shade can be cheaply constructed of poles and brush, in the same manner as the sheds of the same materials for winter shelter, which will be described in my next Letter.

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**WEANING LAMBS.**—Lambs should be weaned at four months old. It is better for them, and much better for their dams. The lambs when taken away should be put for several days in a field distant from the ewes, that they may not hear each other's bleatings. The lambs when in hearing of their dams, continue restless much longer, and they make constant and frequently successful efforts to crawl through the fences which separate them. One or two tame old ewes are turned into the field with them to teach them to come at the call, find salt when thrown to them, and eat grain, &c., out of troughs when winter approaches.

The lambs when weaned should be put on the freshest and tenderest feed. I have usually reserved for mine the grass and clover sown, the preceding spring, on the grain fields which were seeded down.

The dams, on the contrary, should be put for a fortnight on short, dry feed, to stop the flow of milk. They should be looked to, once or twice, and should the bags of any be found much distended, the milk should be drawn and the bag washed for a little time in cold water. But on short feed, they rarely give much trouble in this particular. When properly dried off, they should be put on good feed to recruit, and get in condition for winter.

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**FALL FEEDING.**—In the North, the grass often gets very short by the 10th or 15th of November, and it has lost much of its nutritiousness from repeated freezing and thawing. At this time, though no snow has yet fallen, it is best to give the sheep a light daily foddering of bright hay—or a few oats in the bundle. Given thus for the ten or twelve days which precede the covering of the ground by snow, fodder pays for itself as well as at any other time during the year. I have usually fed oats in the bundle, or threshed oats, (about a gill to the head,) in the feeding-troughs, carried to the fields for that purpose.

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**THE CROOK.**—This implement has been several times alluded to as a convenient one for catching sheep. It is made in the form exhibited in



the cut, of  $\frac{3}{8}$ -inch round iron, drawn smaller toward the point—and the point made safe by a knob. The other end is furnished with a socket, which receives a handle six or eight feet long. The manner of using it is thus described in Mr. Stephens's admirable "Book of the Farm":

"The hind-leg is hooked in at *a*, from behind the sheep, and it fills up the narrow part beyond *a*, while passing along it until it reaches the loop, when the animal is caught by the hock, and when secured, its foot easily slips through the loop. Some caution is required in using the crook, for should the sheep give a sudden start forward to get away, the moment it feels the crook the leg will be drawn forcibly through the narrow part, and strike the bone with such violence against the bend of the loop as to cause the animal considerable pain, and even occasion lameness for some days. On first embracing the leg, the crook should be drawn quickly toward you, so as to bring the bend of the loop against the leg as high up as the hock, before the sheep has time even to break off, and being secure, its struggles will cease the moment your hand seizes the leg."

No flock-master should be without this implement, as it saves a vast deal of yarding, running, &c., and leads to a prompt examination of every improper or suspicious appearance, and a timely application of remedy or preventive—which would often be deferred if the whole flock had to be driven to a distant yard, to enable the shepherd to catch a particular sheep.

Dexterity in the use of the crook is speedily acquired by any one; and if a flock are properly tame, any one of its number can be readily caught by it, at salting-time—or, generally, at other times, by a person with whom the flock are familiar. But it is at the lambing-time, when sheep and lambs require to be so repeatedly caught, that the crook is more particularly serviceable. For this purpose, at this time alone, it will pay for itself ten times over in a single season, in saving *time*, to say nothing of the advantage of the sheep.

Fig. 29.

SHEPHERD'S  
CROOK.

**SUMMERING MANURE.**—Notwithstanding all that has been said and written showing that fresh manure immediately applied to the land, or such as is preserved in tanks or under cover, or by a mixture with straw or earth, is at least four times the value of that left in the barn-yard all summer exposed to sun and rain, wasting its richness in the air and drenching its fertilizing salts away; yet many farmers still believe, or act upon the principle of belief that manure is like cider, growing better with age; and thus their dung is safely kept in the yard till August or September, a great nuisance to all around, and a sad loss to the growing crops. We are well aware that rotted manure is considered indispensable for certain crops, and therefore may say they prefer to sustain the loss of its rotting to the inconvenience of using it in an unfermented state. Let those who thus think consider that when manure has become rotted it is then mere humus or vegetable matter, such as decomposed leaves of trees, straw, hay, corn-stalks, muck, turf, peat, road and ditch scrapings, which may be had on every farm to answer the same purpose as rotted manure. How many farmers let all these substances go to waste, thus subjecting themselves to a double loss—a depreciation in the value of their manure, and a neglect of the vegetable matters on their premises and around them.

**CHLORIDE OF SODA.**—Chloride of soda is said, in the London Lancet, a medical work, to be an effectual cure for a burn. It is stated in that journal, as an example, that an attorney, in attempting to put out the flames that had attacked the curtains of his bed, got his hands burned and blistered, but not broken. He sent for a couple of quarts of the lotion, four ounces of the solution to a pint of water, had it poured into soup-plates, wrapped his hands in lint, as no skin was broken, and so kept them for some time. Next morning he was so perfectly well that only one small patch of burn remained, yet an hour had elapsed before the application. It is added that the same remedy is sufficient to heal scalds and black eye.

## THE LATE MR. COKE, OF HOLKHAM, ENG.

TRIBUTE TO HIS MEMORY AND WORTH, BY HON. ANDREW STEVENSON.

At their late Anniversary Meeting, Mr. STEVENSON met a call from the ancient Agricultural Society of Albemarle to address them; and all that we have room to say is, that those who heard him ought to be very wise already or must be very hard to move, if they fail to profit by such an appeal to their understanding and their interests.

The orator exposed in vivid colors the faults that characterize and the doom that seems to await the cultivators of that noble old Commonwealth, and with equal eloquence and truth indicated some of the ways to reform and salvation. But, after all, if the landed interest does not flourish, if population does not thicken and prosper, and the land itself increase in value, it cannot be for want of knowledge in a community for whom the principles and the implements for right cultivation have been so well explained and illustrated, as they have been for the good people of Albemarle, for the last forty years, by such men as Jefferson, Madison, Taylor, James Barbour, J. M. Garnett, J. H. Cooke, Ruffin, W. C. Rives, the Randolphs and the Minors. Well enough do we know that some will read, with a certain curl of the lip, the names of Jefferson, and Gov. Randolph, and Mr. Madison, as among the benefactors of Agriculture. With a blended air of triumph and derision, these contemners of book-knowledge!—of theoretical Agriculture! would point you to their farms and to their balance-sheet of profit and loss! As well might they say that the Philadelphia glazier, the inventor of the *quadrant*, not being a practical navigator, could do nothing for the safety of ships and the lives and property they bear. As well might they say that that “idle and incorrigible boy,” inventor of the *safety-lamp*, could add nothing to the mineral resources of a Kingdom, because he was not a practical coal-heaver! For our humble selves, much prouder should we be to have explained and illustrated, as did the author of the Declaration of Independence, the mechanical principles to be carried out in the form of a *mould-board*—or to have invented, as did Governor Randolph, the *hill-side plow*—or to have written such beautiful and philosophical addresses as were pronounced by Mr. Madison and Mr. Rives, before the same Society, the former some twenty-eight years back, than to receive a vote of Congress for having, by military stratagem or *coup de main*, sent 50,000 of our fellow-creatures into eternity.

No, it cannot be for the want of practical knowledge that such men, of so much general intelligence, so inquisitive, and so well instructed in the art of cultivation, can produce and keep on an area of near 40,000,000 of acres, not one-fifteenth of the number they might clothe—ay, and feed in the bargain. Whence is it, then, that little Massachusetts, with a tenth of her soil, and in nowise to be compared with hers in fertility or climate, is rapidly gaining on Virginia in point of numbers and power, and sending away out of her prolific hive thousands at the same time to populate the West? It cannot be from any natural inertness or sluggishness of the blood in the sons of the Old Dominion, famous for the high temper and spirit of her men and her horses; it cannot be for the want of great men, for she has more great men than all New-England united. Without great men to manage her affairs, the affairs

of New-England seem to manage themselves. It cannot be that Virginia languishes under the weight of banks and corporations, for which she has a cordial antipathy from her palmyest days to the present. New-England, so thriving, so out of debt, so prosperous, has, we are told, "no great men nor any little men;" they seem to be all alike, as bullets from the same mould, and all shooting ahead. As for corporations, of banks and railroads, no country can equal her. Her banks are at once the most numerous and the safest in the world; their stock is most widely diffused; so are their loans. It is there as easy to make a bank, if men have the money, as to make up a sweepstake in the South. The people have the sagacity to facilitate the views of those who have capital to lend; if a man have a ten-dollar note he can buy stock with it within the smoke of his chimney, and put it at interest; and within the same distance any industrious man can borrow money to give activity to his genius and his industry. There is not a farm that has not within a very short distance *non-producing consumers* of agricultural produce ready to buy the smallest thing that can be made on it for sale. A man may engage for certain a purchaser for the butter yet in his cow's udder, and the eggs that he knows his hens will lay in the morning. It cannot be that Virginia languishes because she avoided speculation in railroads and manufactories, for these thrifty Yankees have made more railroads than any other people in the world; and as for manufacturers, besides supplying enough of them to consume every peck of apples and every string of onions that can be made in the State, so that no capital need be lying dead in an acre of waste land, they send the produce of their manufactories to the British Possessions, and pay duty, and *undersell the old Mother, while she pays none*. What is it, then, say, ye friends in Virginia? Will you penetrate the secret, and let us know? Is there some radical difference in the domestic policy of the two States, or something partial, and pernicious to the interests of Virginia, in the action of the common parent Government? Pray think it over; it behooves you to find it out. Is it that you are all *producers, and no consumers*, think ye? That a vast proportion of the products of your labor is consumed in the wear and tear and *cost of exchanging it for what you get in return*? Don't you want to have the lap-stone, and the loom, and the iron-miner, and the coal-heaver, to come and sit down along side of you, as recommended by Mr. Jefferson? Shall we look for a solution in Professor Tucker's Tables of the relative numbers employed in Agriculture and in Manufactures in the New-England States, where all are thriving, all out of debt, and in the Southern States, where an immense proportion of every man's estate lies so much dead capital in waste land, from which his children are running away. Let us look at these proportions, and let every man draw his own conclusion. Here, then, is the exhibit: in 1810 the proportion employed in the New-England States was, out of 100, in *Agriculture* 72·8; *Commerce* 6·2; *Manufactures* 21. In 1840, twenty years afterward, the proportion employed in Agriculture had *diminished* from 72·8 to 66·7, while those employed in Manufactures had *increased* from 21 to 30·2. In that year, 1840, in the six New-England States, for every 66 persons employed in Agriculture, there were, close alongside of them, *thirty manufacturers*, ready to consume whatever they had to sell—a pint of raspberries or a pound of butter—a gallon of milk or a gallon of cherries—and ready at the same time to buy their wool and to supply them with coats—to buy their raw hides and supply them with shoes. *Here's one, and there's the other!* No time lost in exchanges. The New-England farmer spends all his time and keeps all his manure on his



*farm.* Well, now, look at the six Southern States—(we are speaking of agriculturists, mind ye ; we need not care for others, for *they! they!* will take care of themselves.) In these Southern States, then, the proportion is 90 employed in Agriculture, with 1·2 in Commerce and 8·3 in Manufactures, as purchasers of agricultural produce—in one section about two producers for one consumer ; in the other, eleven for one ! In one, the producer and consumer, close together or connected by the very best of roads—in the other, far apart, exchanging at great cost of time, labor and money. We have imported, last year, it seems, more than one hundred millions of dollars' worth of goods. Suppose the people of the United States, not a *party*—for that is ever ready to uphold the worst and to oppose the best measures, and taints whatever it touches—but as *one people* were to give out, and let Europe and the *whole world* understand that we meant to make these \$100,000,000 ourselves—what would be the effect ? Would we not bring over the *men* and the *machinery* and the *millions of capital* along with them, and then, when the people would be *here*, to eat the farmer's produce of every sort on the spot, and to buy and supply with the *least possible cost of exchange*, would not our people stay at home, and lands, instead of going to waste, be all drained and ditched and planted in fruit and cabbages and potatoes, instead of only a very small proportion of it, in only one or two or three staples ? And then could we not raise honestly, and above board, by *direct taxation*, enough to support the Government at one-half the cost the landed interest pays now, under a fraudulent and cunning invention of politicians and great men to wheedle and cheat them ; and would not our sons stay at home—should we not have concentration, to which the laws of Nature lead, instead of dispersion and decline—might we not dispense with armies and wars and preparations for wars, for which the farmer has always to stand as ultimate paymaster ? We only “ask for information.”

Virginia is fifteen times larger than Massachusetts, with richer land, better climate, more coal, more iron, more water-power, can raise all sorts of produce in greater quantity per acre, wool included, suppose, then, she had within her borders fifteen times as many non-producing consumers of agricultural produce to supply with wool, beef, coal, iron, mutton, potatoes, fruit, butter, cheese, timber, corn, flour, rye, oats, onions, leather, oysters, fish, wood, bacon and cabbage, as Massachusetts has of that class of people—fifteen times 85,000 manufacturers would be 1,275,000—suppose they consumed *altogether* an *average* of 25 cents a day, they would want of what is produced out of the land, \$116,345,750 a year ! What would land be worth then ? Would not the people that are flying off stay at home, and would not the young men settle near their fathers, and their sisters all get married ? Would we not have concentration instead of dispersion ? And then, what would be needed would be a plain, honest, direct tax for the support of the Government. Let the farmer know exactly what he does pay, and for what he pays it. Let him have, once a year, a *bill of particulars*, in the plainest terms ; and *then*, and not till then, will the landed interest be brought to understand and to control the price he pays for being governed.

We only throw out these intimations for our readers. If there be any interest in which we feel a sincere, unaffected, *anxious* concern, next after the personal safety and well-being of our immediate family, it is the *landed interest of the country*. We are satisfied there is *something rotten in the state of Denmark* that depresses and scatters where we should have concentration and prosperity. *What is it ?*

As for Mr. Stevenson's address and Mr. Rives's that preceded it, we only wish

we had room for them both, but the addresses delivered would make volumes of themselves. One thing we must say, that nothing argues worse—nothing more clearly evinces the want of the true tone and spirit in the agriculturists of Virginia so much as that the local *party papers*, of which they have so many, and who may be supposed to know something of what public sentiment demands, should have felt themselves *at liberty* to withhold such Addresses as these.

EXTRACT FROM MR. STEVENSON'S ADDRESS.

And here Mr. President, I cannot forbear alluding to one extraordinary and distinguished farmer of England, to whom not only she, but the whole world, are indebted, as one of the greatest patrons of Agriculture, and benefactors of Man. I allude to the late Lord Leicester, better known as Mr. Coke, of Holkham, the great farmer commoner of England, and the devoted friend of America and all Americans. I can speak of him and his farms, with some degree of accuracy, as it was my good fortune to obtain his friendship and regard, during my residence in England, and spend many weeks with him in the country. This celebrated Holkham estate, (or rather farms, for it is divided into many,) contains many thousand acres. The house, one of the most magnificent piles of architecture in the kingdom, covers an entire acre of ground; the immediate pleasure grounds ten acres, and the park eight or nine miles in circumference, and had just been entirely inclosed with brick, when I paid my first visit. The house was built by the first Earl of Leicester and his wife about 1734, and they dying without children, it descended to Mr. Coke the nephew, as the next of kin. He was then quite young. It remained totally neglected until he took possession of it on reaching his majority, with no means however to cultivate, or improve it. He was advised to pull down the house, sell the bricks, and dispose of the lands at any price or abandon them. It was about this period that, speaking of the poverty of Holkham, one of the females of the Walpole family wittily said of it, "that there was always two rabbits contending for one blade of grass." Its character and poverty however admit of no doubt, for over the door of the entrance hall is the following remarkable inscription in marble.

"This Seat, On An Open Barren Estate  
Was Planned, Planted, Built, Decorated,  
And Inhabited, The Middle Of The 18th Century,  
By Thomas Coke, Earl Of Leicester."

On taking possession of the estate the first effort was to sell. He offered it at 2s. 6d. an acre, but, being unable to get even that, he determined to borrow the necessary funds and reclaim it. He did so, removed to it in his twenty-second year and devoted himself to it for life. Amid the prejudices, ignorance and apathy of the people of Norfolk, he continued firm and resolute, and kept to his opinions and persevered for years with all his characteristic energy of purpose. Then it was that things began to change. Men of talent and enterprise began to take up the matter. The people were awakened out of the sleep which precedes dissolution to consider and reflect on the subject, and their duties; and in less than a quarter of a century, his patriotism and industry triumphed over ignorance and apathy, and a poor barren estate that could neither be sold nor cultivated, in its then state, was made a perfect garden spot, yielding an income of 40 shillings or more an acre, and producing average crops in later years of forty to fifty bushels of wheat and more to an acre. It was during one of my visits, that he told me that he had lived to see all his expectations more than realized and justified; and that one of the most gratifying things, connected with his agricultural life was, that only a few months before, he had embarked with his wife and four sons on board of a vessel which was launched at Wells, a small town near Holkham, which had been built out of *Oak produced from acorns* of his own planting! He was then I suppose more than eighty, and of course the oak was some sixty years old! I will not suffer myself to speak of the extent and vastness of the estate, created as it were by one man alone and unassisted. To give you, however, from certain data, an idea of the extent and character of the cropping, I will read an extract from a Treatise on Practical Farming and Grazing, by C. Hilliard, Esq. a distinguished agriculturist, published in 1837, and a copy of which he was good enough to present to me. In page 32 he says:

"At Holkham the wheat, being short in the straw, is mowed with a cradle scythe: youths, women and boys, immediately following the mowers, binding it up (assisted by horse-rakes) into sheaves, which, as the straw is free from weeds, if the weather is particularly fine, they will carry without setting the sheaves up in the usual manner in shocks. I was at Holkham, about eight days, in the year 1831, at the time wheat was harvesting, and a most animating sight it was. I counted above one hundred, men, women, and boys, employed in one large field. In this way, three hundred and forty-five acres of wheat were cut, carted and stacked, in six days. This was getting on with wheat harvest more expeditiously, perhaps, than is in the power of any other person in the kingdom. I saw at the same time, four hundred and fifty acres of turnips, of different sorts, and mangel-wurzel, in which Mr. Coke challenged me to find a single weed, excepting some that might have just sprung up out of the ground. I could not see one weed that was three

or four inches long, and this was clean farming on a large scale as probably could not be seen in any part of the world."

Now I call upon our anti-scientifics and of the "Good Enoughs," to explain how these results could have been produced under any circumstances, upon such an estate as this was, without the aid of *the most high and finished system of scientific cultivation!* One field of three hundred and forty-five acres producing between fourteen and fifteen thousand bushels of wheat, and four hundred and fifty acres more in luxuriant "turnips!" Why gentlemen, it must strike the imaginations of these friends of ours as more like the enchantments of fable and story than sober reality. But why speak of him as the most remarkable agriculturist that ever lived? It is matter of history and not to be questioned! Will you pardon me, in referring to what one of the distinguished writers of the day says of him and his farming:

"The country and not alone the country, but the world, it may truly be said, acknowledges the benefits of Mr. Coke's exertions in the advancement of the first of Arts. For himself, both as regards his happiness and his after report to posterity, nothing could have been more full of congratulation than his early selection of such a study. To prosecute with such advantage any pursuit to such a period; to enjoy so long a duration of uninterrupted health; to see the patrimony of his ancestors improved beyond all possible computation; to know that from his example, his spirit, his skill, and his encouragement, not alone his own estate, not the country where he lived, not the country itself only, but every civilized nation on the face of the globe, may be said to owe some portion of obligation to his labors; to be able to assemble the curious, the scientific, and the eminent, in vast numbers around him; to hear his just praises spoken from the lips not only of men distinguished in arts, in arms, and in letters, but of princes of his own and foreign lands. All these together form an aggregate of fortune that attends but a very few among those who are born and die. Yet such is the consummation (and a proud spectacle it is both for the individual and for his country) that Holkham has existed—and that, under Divine Providence, Mr. Coke has been made the instrument of diffusing so many and such great blessings among mankind."

But, Mr. President, there is another circumstance, of a personal character, connected with our country and one of my visits to Holkham, which I ought not to omit to notice. It is strongly illustrative of the long cherished attachment of that distinguished individual to America and her free institutions. Mr. Coke and myself were walking one morning through the saloon and stopped opposite to a full-length portrait of himself, taken in his twenty-second year. It was painted by Gainsborough. You see, he said, that I am taken in my shooting costume, with gun in hand, and pointers in the group. Now do you know that this is one of my favorite pictures and said to be the finest likeness ever taken of me; but I have often wished that there had been one change in it, and that is, instead of the shooting dress, gun, and pointers, he had represented me in my ordinary dress of blue coat, leather breeches, boots and spurs, with the *Declaration of American Independence*, in my hand supporting, with Fox, a motion for acknowledging it. I should then have hung it side by side with the portrait of that great and good man, by Sir Joshua Reynolds, the finest likeness ever taken of him. We were devoted friends, and often congratulated one another on the part we had taken in favor of American Independence; and that we had never voted to put one penny of unnecessary burden upon the people, or shed one drop of human blood! He afterward gave me a printed copy of the Report of the forty-third anniversary of the Holkham Sheep Shearing in 1821, which lasted four days, and was attended by one thousand persons, including some of the Royal family, and many of the distinguished noblemen of England, with farmers from all parts of the country. From this report let me read an extract from a speech delivered by Mr. Coke, at dinner, on one of the days, in answer to a toast complimentary to himself, and prefacing one he intended giving:

"Mr. Coke, in proposing the next toast, said every one knew his early respect for the Americans, for their manly and independent assertion of their liberties: he came into Parliament previous to the commencement of that disastrous War which divided the two countries, and which under a mild and wise Government, might have been joined hand in hand, and thus united might now have bid defiance to the rest of the world! I was the only member (said Mr. Coke) out of twelve from this county who voted against that War, and I thank God for it—I look back with satisfaction to that conduct, and have followed the same principles ever since. The motion to put an end to that War was carried by a majority of one, the vote being 177 to 178. When it was carried, Lord North moved that the debate should stand over till the following day, but Mr. Fox suggested to me to move that the address be carried up to the throne. The debate lasted until 7 o'clock the next morning, and Lord North, seeing that not a man would stir, at length gave way, and I carried up the address as an English country gentleman, in my leather breeches, boots and spurs. But would you believe it that the traitor General Arnold, when I presented the address, stood as near to his Majesty as I now do to the Duke of Sussex, a most lamentable proof of that fatal policy of which we have long seen the evil effects! Mr. Coke concluded by proposing the health of Mr. Weeks of America, and he could assure the company that every day during the War did he drink GENERAL WASHINGTON as the greatest man upon earth."

And well may England place among her first men, and her most beneficent benefactors, the man who shed such a lustre upon her Agriculture, and that of the world. He did for the Agriculture of England, what *John Hampden* did for the liberties of Englishmen against tyranny. And if the reward of popular praise, and popular honors, are due to those who, guided by a wise philosophy, and whose objects have been the welfare and improvement of mankind, then are they due to Thomas William Coke.



### BETEL-NUT, AND CHURRUS:

AN EXTRACT FROM HEMP—ITS CURIOUS QUALITIES—CURE FOR TETANUS OR LOCKJAW, ALSO FOR WORMS IN HORSES AND DOGS—A SUBSTITUTE FOR TOBACCO, PERHAPS.

IN relation to the action of the *Betel-Nut*, Mr. Haggar, connected with the East India Company service, says: "No one ever thinks of giving anything to a dog having worms but the betel-nut. The natives invariably use them. I have not given a horse calomel for worms since 1832. Whenever the indications of these parasites are manifested, such as a staring coat, impaired condition, loss of appetite, &c., I withhold half the dose of aloes, and substitute one or two drachms of the betel-nut in powder, adding a little more ginger, and it turns out the worms like a 'broom in a gutter.' I think the betel-nut has only to be known in England, to come into *general use*. Its charcoal has been long extolled for making the best tooth-powder known." Now, so far, there seems to be not much resemblance or affinity between betel-nut and tobacco; but we thought the hint as to its qualities as a vermifuge might be useful to every farmer.\* It is not known, but inquiry shall be made of our friend Milhau, of Broadway, at the head of the College of Pharmacy, New-York, and to be depended upon with unbounded confidence on the score of intelligence in his profession and probity in everything—whether it has been imported and tried in this way in our country; he will know, and if not he will take care to import some. But we are coming now to present it in other aspects bearing a closer similitude to *Nicotiana tabacum*.

Sir Richard Phillips (we are not sure whether it be the learned author of the History of Fruit-Trees, and the History of Vegetables) says the betel belongs to the same tribe of plants as the peppers—a climbing plant with a leaf in shape and appearance resembling that of ivy, but more tender and full of juice. He adds: "There is an incredible consumption of betel-leaf throughout the East. The inhabitants chew it almost incessantly, and in such quantities that their lips become quite red, and their *teeth black*, a color *greatly preferred by them to whiteness!* They carry it in little white boxes about their persons, and present it to each other by way of compliment and civility, in the same manner that [Americans] do snuff. This is done by the *women* [only think of it!] as well as the men, and it would be considered an offence if those to whom it is offered should refuse to accept and chew it. The leaves are sometimes used alone, but much more commonly when covered with a kind of lime made of sea-shell and wrapped around slices of the areca-nut, the fruit of the areca palm, which is of the size of a small egg, and resembles a nutmeg deprived of its husk." Professor Burnet says: "Slices of the betel-nut wrapped in a leaf of the betel pepper is a favorite masticatory in Southern Asia. A little shell-lime is added to keep the taste and odor longer in the mouth. It gives the saliva a red hue like that of blood, and by constant use the teeth become blackened; it allays hunger, and is hence chewed, as tobacco is in Europe, to appease the appetite; and it is said to be the height of rudeness in the East to speak to a superior without having *a quid* of betel in the mouth. It produces intoxication when first chewed, but this effect is soon got over, and the natives say that it is a tonic, and moderates profuse perspiration."

Now we leave to the judgment of impartial readers to decide between the *betel-nut* and the *tobacco leaf*, which is the more refined luxury of the two, barring the *black teeth*; and here, again, we may say—*de gustibus*. There is nothing of which it behooves us more to disabuse ourselves than of the prejudices of education, habit, and country. It is somewhere related that a man of erect and athletic form being cast on the shore of an island inhabited by hump-back people, was stoned to death as a monster of deformity. If anything so repulsive as is tobacco, on being first tasted, can become an article almost of necessity with those accustomed to use it, why may it not be changed for a more compact and genteel substitute? Not only do we see individuals, but whole nations change in character, that is to say their manner of seeing and feeling, effected most frequently by changes in the form of their government, or rather, we might say, by corruption and fraud in the spirit of its administration. Who would believe, for example, that a Roman Emperor once said of the Parisians, "I love them because their character, like mine, is austere and serious!"

But we are getting into a moralizing strain, and may ourselves, peradventure, be considered as under the influence of some uncommon hallucination. In regard to tobacco, as we have a month to back and fill upon, as to anything essential in a practical view, after having given the best directions at hand for making the *beds*, the professional and general reader may not be displeased that we take room for what we find about that other drug, "*Churrus*," especially if the Asiatic cholera should follow in the wake of the potato cholera, as it seems to be doing in Europe. It may be well, too, in the way of advertisement to our medical readers, who will pardon the supposition that some of them may not have seen the following or a similar account of it. The positive assertion, too, that it has been found effectual in cases of lockjaw is alone sufficient to commend it to the notice of the humane of all classes, and to justify us in lugging it in in almost any connection, without reference to its narcotic effects, which seem to assimilate it so strongly to our weed.

This drug was, about three years since, presented to the Veterinary Medical Association, with the following note from Doctor Hoey:

"My Dear Sir: Be pleased to accept the accompanying drug, which I have brought from India. I do not know whether it is generally known in this country; the Indian name for it is "*churrus*;" it is a resinous extract obtained from the wild hemp. I have seen several cases of tetanus cured by it in India. The dose I have given is one scruple, in the form of tincture, every four hours, the patient having been first copiously bled, and the bowels frequently acted on by aloes. It has also been used by human surgeons for the cure of cholera with great success; in fact, there are few cases but have yielded to it, when taken in time. Perhaps you are already acquainted with it; if so, pardon the liberty I take in sending it to you, since I do so under the impression that it may not be generally known. The natives of India use it to smoke in their hookas, combined with spices and tobacco, and with it they perfectly stupefy themselves; and when they recover from its effects say they have had heavenly dreams. It is much similar to opium in its narcotic effects, but differs from that drug by not producing the same amount of debility subsequently.

"Believe me, my dear Sir, yours very truly and obliged,

J. W. HOEY.

"To Mr. MORTON."

"In India," says Professor Burnet, "*hemp* is cultivated as a luxury, and used solely as an excitant. It possesses peculiar intoxicating powers, and produces luxurious dreams and trances. The leaves are sometimes chewed and sometimes smoked as tobacco." We recollect to have once heard the late William Pinkney, unequaled as an orator at the bar, say that on the eve of a great cause he could never so well concentrate his thoughts and arrange all his armor for the coming conflict as when puffing his fragrant Havana in a mood of abstraction. Mr. Ley, too, says, in a paper read before the Medico-Botanical Society, London,

that. "the resin of the *Cannabis Indica* is in general use as an intoxicating agent, from the farthest confines of India to Algiers. If this resin be swallowed, almost invariably the inebriation is of the most cheerful kind, causing the person to sing and dance, to eat food with great relish, and to seek aphrodisiac enjoyment. The intoxication lasts about three hours, when sleep supervenes; it is not followed by nausea or sickness, nor by any symptoms, except slight giddiness, worth recording. These effects are much modified in this country, and much less marked, possibly from the length of the voyage rendering the article deteriorated in value. The subsequent effects are depression of spirits, and relaxation of the muscles in a marked degree; yet the lightness attending that relaxation, the free perspiration on the skin, and the increase of appetite, have made some old rheumatic persons speak of it as the elasticity of youth."

In taking space to record these curious facts, besides the amusement they may afford, it is confessed that the principal motive is to suggest that in these drugs may be found the means of relieving our domestic animals, especially those faithful ones the horse and the dog, in critical cases of illness. Gratitude, nay common humanity, invites us to diffuse a knowledge of every means that may save not only their lives, but even a moment of speechless suffering—instead whereof how many such do men wantonly inflict?

### LYFORD'S PRICE CURRENT.

#### PRACTICAL HINTS TO GROWERS OF INDIAN CORN.

WE heartily welcome the return to our desk of an old and familiar friend, under the above title. If any man has a tact for the office of gathering up and arranging statistics—agricultural and commercial—with judgment and perspicuity, Mr. Lyford has, either by nature or education or both. To this expression of our poor opinion we are prompted no less by good will for the man than the thanks we have often owed to the editor for articles like the following. Thorough cleaning and thorough *drying*, such as is afforded by the use of the Stafford Rotary Dryer, will go far toward substituting our Indian corn, in England, for their oil-cake and oatmeal, and thus may be opened a new, improving and permanent market for the plant which should take, on our arms, the place of the ravenous and plundering bird of prey, and, more than the sword, be esteemed the glory of America. The following, among his notices to correspondents, by the learned editor of the London Gardener's Chronicle, is extracted only to show how familiar they are getting with the use of our Corn Meal:

MANAGEMENT OF CATTLE—*F P B M*—You can feed your cattle perfectly on hay, Linseed, *Maize*, and water, and litter them comfortably with Fern and leaves; and we should prefer doing so and obtaining the manure for our turnips, to buying guano at £11 11s. per ton. You can probably buy oat-straw cheaper than hay: given as chaff soaked in hot linseed soup, and sprinkled with *Indian corn meal*, it will feed well.

Among the same notices Professor Lindley, who seems to be extensively engaged in practical farming, says:

FARM HORSES—Our horses are now eating about one cwt. of hay and nearly 2½ bushels of oats apiece weekly.

This goes to show, as we have often insisted, what an enormously expensive agricultural machine a live horse is. Say for the year, 2½ tons of hay and 125 bushels of oats. Now we turn to two papers on our table for the price of these



articles, and the calculation is the fairer as one is from *Boston* (the "Ploughman") and the other the *Baltimore American*, thus showing the price in different parts of the country. The first says that hay, within 20 miles of *Boston*, has averaged \$15 a ton for 30 years past; the other gives the present price of oats at *Baltimore* at from 35 to 40 cents. Well, say 35 and the expense of each horse kept up and at constant work is rather more than \$80 a year, or \$160 for a pair of horses, for feed alone, being the interest on about \$2700!! What think you of that, gentlemen keepers of superfluous horses? Then again remember that a *grub* the size of a horse-bean, or a touch of the colic, kills him and you lose your capital altogether—a fortunate riddance if you can possibly do without the horse. How different with the thrifty Yankee who in lieu of the horse plows his 1½ acres a day with his patient oxen that are ready to work every day of the year, and at the end of their lives give him 1600 weight of prime beef, worth, at 4 cents a pound, \$64.

See how much more expensive to keep a horse than a man,—13 bushels of corn a year, or a peck a week, is an abundant allowance for a man. Then, according to the experience of the President of the Agricultural Society of *Saratoga County*, 100 pounds of meat, with "garden sauce," is all sufficient. The corn at 60 cents a bushel, will amount to \$7 80. The meat at, say, 6 cents, \$6. Total \$13 80, or more than six men for one horse; or add for the man's clothing equal to his food, and say nothing about the shoes and tackle of the horse, and you can keep three men for one horse. But the horse is useless without a man, whereas there are many kinds of work that a man can do without a horse. After all, be it remembered, \$80 for every horse you keep where he is constantly kept up, worked, and fed, and where hay is worth \$15 a ton, and oats 35 cents a bushel.

There is not a foot of land in *Prince George's* or *Ann Arundel county* that might not be worked with great saving by mules or oxen; nor is there a horse team in a wagon in either that travels as fast as would Mr. *Blagden's* *Devon* oxen with a Yankee driver. But, between them all, we have been run away with and forgotten the extract from friend *Lyford*:

**CORN AND THE FORTHCOMING CROP.**—We have more than once, recently, been requested to say something by way of caution to farmers, (if peradventure any remarks we make might reach and be regarded by them,) in reference to the condition in which they have hitherto brought their crops to market, and the great necessity which experience has taught buyers—to be careful in future how they operate in the article.

Farmers ought to be very particular in cleaning and preparing their corn for market. The large shipments made last season to Europe have imparted knowledge to shippers to a greater extent than they before possessed, for which, in the shape of losses, many of them have paid high prices, and this will admonish them to take better care for the future. The forthcoming crop of the United States this year will be unprecedentedly large, reaching probably 525,000,000 bushels, so extra large has been the breadth of ground planted; and this immense amount will be disposed of in various ways: Much of it will find its way to Europe, where, as that which reached there last season was well received, so will likewise be this and subsequent receipts—and much will be consumed at home, as flour will, in all probability, be scarce and high during winter in the Atlantic markets—and in the West, stocks of cattle and hogs will be fed with it, and large quantities will be distilled. To enable farmers, then, to obtain good or saving prices, it will be necessary to have the article freed from all foreign matter, as the presence of any uncleanness not only injures the appearance but likewise the flavor; and as underwriters will no longer take risks on corn shipped in bulk, bags must be procured by shippers who are not disposed to pay freight for more than they can avoid. Farmers, therefore, will readily perceive the necessity, for their interest as well as reputation, to bring their corn to market properly cleaned, and thereby obtain good prices, instead of having it abounding with foreign matter, which the shipper will have to remove before he can bag and put it on shipboard, for which he will deduct in his mind the expense thus incurred. We are borne out in our opinion, aside from what purchasers have stated to us, by the following:

The *New-York Express* says:—"A vast portion of the embarrassment that has overtaken  
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many of the large flour and grain houses in England and different parts of the continent, has been occasioned by the injudicious manner in which shipments of grain have been made. The demand for breadstuffs was so great, that corn, wheat and rye were sent forward in the utmost hurry; everything in the shape of a vessel was loaded—and most of them without any judgment. The consequence has been that many have foundered at sea; others have never been heard from, and a large number have been compelled to return, or put into some foreign port with cargoes shifted and damaged. These have occasioned some losses and disappointments. But yet a greater evil has been experienced from the want of care in having the grain properly dried and prepared previous to being shipped. A very large portion of the grain sent out, has been found, on arrival, to be so heated and damaged as to be worth less than the mere freight. It is doubted, by men well skilled in the trade, whether one-half of the Indian corn that was shipped from this country last year reached England in a sound state. If this is correct, it is easily explained why the losses have been so great and so ruinous.

"Taught by experience, shippers now endeavor to profit by the past, and are shipping their corn mostly in bags, and in such a thoroughly dry state that those cargoes now going forward will reach their destination without injury.

"Corn, during most of the last season, cost 100 cts. freight 60, and other charges 30 to 40—making the aggregate about two dollars, laid down in Liverpool. Now, the cost is 70 cents, freight 15 cents, and other charges 25—making the whole cost about 110 cents. If prices should run down to 50 cents when our immense crop comes in—which will be a large price—corn can now be sent to England at less than a dollar a bushel, or about one penny sterling or two cents a pound. Oatmeal, which is the poorest breadstuff in the kingdom, was selling, at the last low prices, at 1½ penny or three cents a pound."

The above was intended for the December number. The reader can easily make any allowance necessary for change of prices, if any since that date.

## ROTATIONS AT SPRINGFIELD, MD.

### SHORT DESCRIPTION OF A GREAT SYSTEM, LEADING TO GREAT RESULTS.

It would require more time and care than we can now bestow to describe Mr. George Patterson's Springfield estate, in Maryland, near Sykesville, on the Baltimore and Ohio Rail Road.

It is a large estate, of some 12 or 1500 acres of undulating, and when he took it, very poor, unproductive land. He has limed a large portion of it, to the tune of some \$30,000; but then, instead of his crops not paying for the seed and the harvesting, he now gathers, we opine, some sixty bushels of corn, twenty of wheat, and from one to two tons of best hay to the acre; and, as we believe, he feeds all his hay and corn on the land, and provides well-littered stables and shelters for his horses, cattle, sheep, and hogs, it may be supposed that the action of the lime, and the results of his whole system, are much advanced by the addition of a great quantity of manure.

We made a flying visit to Springfield lately, in company with Mr. Wierman of Baltimore, and should have been abundantly repaid if only in viewing an imported North Devon Bull, sent out by Mr. Bloomfield, surrounded by six and twenty of the sleekest and most beautiful cows and heifers we ever beheld, up to their eyes in the aftermath of an 18-acre grass lot, from which he had cut more hay this year than was yielded by the whole estate when he took possession of it. But, as before intimated, we can't attempt here anything like a detail of the products of the several fields, at that time and since, and the processes followed from year to year. The outline of the system will be seen in the following extract for which we asked, only because of our laboring under the misfortune of a most unfortunate memory, none the stronger for belonging to a mind somewhat overcharged with labor and care.

But on the occasion referred to, our notice was attracted by the most extraordinary *horticultural display* that ever met our eyes, unless it were a field of onions at the Shaking Quaker village at Lebanon. In this case it was a large lot of *mammoth cabbages*. We should like much to have ascertained the weight of the largest. The size we would not venture to state if we had not such a good backer as Mr. Wierman in anything that he will undertake to back. We will, therefore, aver that he assisted us to measure the diameter of one, not the largest in the lot, but the largest among those very near where we were passing. The measurement was upward of *four feet across*!

It grew on an old dunghill, and had once on it a very large dose of lime. The whole weight of that crop of cabbages to the acre, and the quantity of milk it would produce from such cows, supposing a *pint of Indian corn meal to go along with each head of cabbage*, would be a thing to be talked about—it would! The last field we rode hastily over, on leaving Springfield, was one with a strong grass sward being turned up in the best style for exposure to the winter's frost to kill the grubs and prepare the land for corn next spring. On this lot his whole system has been now consummated, and next spring is to be renewed. In reply to a request for a brief memorandum of the course through which it had gone, we were favored with the following. We "guess" this large field will produce not less than 60 bushels to the acre, instead of, probably, not over 12 when it was brought under this course of improvement, nine years ago.

SPRINGFIELD, Oct. 23, 1847.

*Dear Sir* :—You asked me, when you were here, to give you the course that had been pursued with a field then being plowed for corn next year. It has twice gone through the rotation of cropping I follow.

1st year, in corn; 2d year, small grain; 3d year, clover, plastered—first crop mowed, second crop left on the ground; 4th year, clover, grazed *moderately*; 5th year, wheat; 6th year, timothy, mowed; 7th year, timothy, mowed; 8th and 9th years, in pasture. I invariably put the manure on the surface when the land is in timothy. I also apply the lime when the land is in grass. I use 200 bushels of unslacked stone-lime to the acre, either in one or two applications: that quantity, in all, appears to be sufficient for my land.

Yours truly,

GEORGE PATTERSON.

## MONTGOMERY COUNTY LANDS.

### EFFECT OF GUANO AS SHOWN BY EXPERIENCE.

[Extract.]

WOODLANDS, Montgomery Co., Nov. 1, 1847.

My location is on the Big Seneca, and I again beg leave to refer you to Mr. Farquhar's description of lands adjacent to that stream. Our soil is a clay, intermixed with small but numerous particles of stone, and retains improvement where improved, longer than almost any lands I am acquainted with. *Guano* acts on all the lands in our county, where it has been applied, as it has been in a number of places this season, like a charm. Indeed it is charming to the heart to see the beautiful verdure of the wheat fields, as you pass them, giving a promise of a bountiful yield. The contrast between their present and former appearance is indeed wonderful, and would be incredible but for the known efficacy of the powerful agency of guano. By way of experiment I procured one ton of that article in the fall of 1845, and applied on about eight acres of my poorest land, the product from which was equal to improved land adjacent. Last year I applied nearly three tons to my wheat land, and one ton on my corn land. The wheat land had only recently been inclosed, and was poor indeed. I purchased it a short time since because it lay contiguous to my other land. Owing to a break in the canal my guano did not reach me until some time in November,



and was then applied at the rate of nearly 200 pounds, mixed with 72 pounds of plaster per acre. The appearance of the wheat after it came up astonished, and was the admiration of every person who passed the public road that runs immediately by it; and, notwithstanding it was so late sown, and the uncommon drouth of two months' duration last spring, yielded an average of 9 bushels of wheat to the acre—but, previous to the drouth, promised to be good for from 15 to 20 bushels per acre. The corn was also much improved by the guano, but to what extent I am as yet unable to determine, as I have not yet gathered it—but am satisfied it will pay well for the expenditure. With proper management and a moderate expense, I have no hesitation in saying our lands generally can be made as productive as any lands on the Atlantic slope; and for beauty of scenery they are not surpassed from Maine to Texas. Sufficiently undulating to carry off redundant water, beautifully diversified by hill and dale, and plentifully supplied by the very best springs of water the world can afford—the largest streams affording constant and ample supplies of water for milling and manufacturing purposes; and, with the exception of a few situations on the borders of our rivers, *healthy*, almost to a fault, as our physicians would say. The timber generally, except on the margin of the streams and in the valleys, is young and thrifty, consisting of every variety of oak, hickory and poplar, interspersed on the ridges with chestnut. I located myself here in the year 1812, at the commencement of the late War with England, and about that time, in a conversation with an old gentleman (84 years old) who was born on one of the plantations I purchased, he told me that *his father was the only white man then settled between the Eastern Branch (at Washington City) and the new settlement at (now) Frederick City*—that the only road between those places was an Indian trail that crossed the Seneca immediately above my factory and mills, and that the country when he was a boy, except the valleys, was covered by a low growth of bushes, over the tops of which he could see the deer bounding for a long distance, whenever they were started. This accounts for the present timber being young and not very large, except in the valleys, where it is found in many of them very large and of the very best quality, particularly white-oaks that are hard to beat in any country. Since that period the country has been occupied and is still occupied in part by the proprietors of the soil; but besides them there was a class of tenants on large tracts of land held by non-residents, whose sole object was to obtain all they could from the soil, cutting down, clearing and cultivating it in such a manner as to obtain all they could from it, and when it would no longer yield them a profit on their labor, deserting it for other new regions, and leaving it exhausted and unoccupied, and finally turned out into what is termed old fields. Those old fields, however, in many instances, are filling up and becoming covered with a growth of pine which in a few years gives a new character to the soil, and when cleared is very productive, and by judicious treatment can be rendered permanently so, by the proper use of clover, plastering and rest. The inhabitants generally are very hospitable, peaceable, and (becoming) industrious in their habits, and have a desire to improve their condition. In this respect there has been a most wonderful change within the last ten or twenty years, and is still on the increase—of which you may form some idea when I inform you that I have understood from reliable authority that of the article of guano alone there have been used nearly or quite 500 tons in this county the present year. Now is the time for purchasers to procure lands in this country (before their value is more fully demonstrated or known), while they can be purchased for a song, and will fully repay the investment in a year or two, by the application of those imported manures and the use of such materials as the lands themselves afford. I should think the opportunity a favorable one for establishing the *young scions* of some of your wealthy citizens to advantage, where they might be pleasantly located near the Capital of the Union, and by proper attention to their new vocation become useful and respectable citizens, and infinitely more happy than in the pursuits of fluctuating and precarious mercantile operations and trade. Our young ladies are intelligent and fascinating, and make the best of housewives; and as for the comforts and many of the luxuries of life, they are to be procured here in abundance, including, as you justly observe, the best bacon in the United States.

Your ob't serv't.

FRANCIS C. CLOPPER.

## PRACTICAL NOTES,

FOUNDED ON OR DRAWN FROM AGRICULTURAL READINGS—BY THE EDITOR.

AT Farming-Clubs in England, instead of wasting their time and breath about this thing and that thing, and everything, they stick to a given theme until it is sufficiently elucidated and exhausted to enable them, as they think, to come to some practical result. That result is embodied in a Resolution which is put in form, passed upon and sent out as the best judgment of the Club, for what it is worth, to have its weight according to the known judgment and practical knowledge of the members. The subjects are always of substantial importance connected with the field operations of practical men. Thus at a late meeting of the Spalding Club, "after an able and interesting discussion" by farmers whose names are given, the following Resolution was unanimously adopted:

"That with regard to feeding sheep it is highly desirable to give them a change of food, which will keep them in a more healthy state than confining them to one sort of keeping. With respect to beasts, *if not intended for grazing the ensuing summer*, they cannot be kept too warm, if attention is at the same time paid to proper ventilation; and that a variety of food, such as Swedes, mangel-wurzel, cake, and clover, will be found most fattening; beasts intended for grazing should not be housed or kept too warm."

The "feeding" sheep here spoken of we apprehend means feeding in the process of fattening; but what seems most worthy of remark is the distinction taken between beasts to be *fattened* and beasts to be grazed the next year—that while the former "cannot be kept *too warm*, if attention is paid to proper ventilation," the latter "should not be housed or kept too warm."

By another Club it was resolved, without one dissent,

"That the trough system with cut hay, turnips, &c., was every way preferable to the old cage practice, which invariably leaves seeds and scattered turnips half consumed all over the fold; and that it is the best management to keep ewes well at all times, in order to insure healthy and well-grown lambs." [This corresponds with the practice of our friends in the grazing districts of Western Virginia.]

A gentleman exhibited a plan for "field-shed feeding," formed of hurdles and thatched, put together at a small expense, and movable as the food is consumed, by the shepherd and his assistant, which was highly commended, and will no doubt come into general use when the inclement weather sets in; as there is no doubt one acre of turnips will produce *much more mutton when consumed in warm sheds than when fed in the open ground*.

We believe the Messrs. Reybold, of Delaware, who unite reflection with experience, breed their sheep under warm shelters through the winter.

LONG-WOOLED SHEEP IN ENGLAND.—At a late public sale, a splendid lot of long-wool shearling rams (40 in number) was sold by auction by Mr. Briggs, bred by and the property of Mr. Thomas Mons, of Stenigot, near Lowth. They were thought by many eminent judges to be the best lot of shearlings, for their number, that had been offered at Lincoln on any prior occasion. After a very spirited sale the whole were sold at an average of near £10 each, and a few of the best averaged £20 each; a pair of twin sheep, much admired, sold for £36 (\$5 to the pound).

A HINT TO THOSE WHO WASTE MANURE.—A little book "On Manures," recently published in French, concludes with the following sensible maxim: "The scarcity of manures is the cause of the sterility of a country, and it is useless to improve the mechanical methods of culture if we neglect this source of fertility." In Flanders it is commonly believed that the first crop exhausts one-half of the manure.

[Comptes rendu a l'Academie.

**HOVEN OR BLASTING IN SHEEP AND CATTLE.**—A late Mark-Lane Express has the following:

Lord Portman is desirous of making known the following simple remedy for hoven or blasting in cattle. It is taken from Johnston's Agricultural Chemistry: "Give two or three table-spoonsfull of liquid ammonia (*i. e.* hartshorn) diluted with water, as soon as the animal shows any symptoms of the disorder, and drive it off the field where the attack has been produced. The quantity of water must depend on the strength of the hartshorn. A bottle of hartshorn should always be at hand where sheep are feeding on rape, &c., as deaths follow very rapidly when this disorder is unchecked. The swelling is due to fermentation in the stomach, and the consequent formation of carbonic acid, and some hydro-sulphuric acid gas—with both of these ammonia combines, and puts an end to fermentation."

**WHAT HAS BEEN DONE CAN BE DONE AGAIN.**—The object in going back to see what has been done, is to bring us to the resolution of *excelling* in that which is good. When Agricultural Societies offer premiums for large crops, as such merely, they ought at least to require that they should exceed what their award lists already show what has been done. We find the following in a late number of the Mark-Lane Express. Multiply the *quarters* by 8, and it will be found that 60, 70, and even upward of 80 bushels of wheat on an acre may be made:

*Faversham.*—So bountiful have been the crops of wheat in this neighborhood from the late harvest, that in many instances as much as 8 quarters an acre have been reaped; and the respected vicar, Rev. Mr. Collins, in a very eloquent discourse on Sunday se'nnight, stated that as much as 10 quarters of wheat had been grown on a single acre of land, and 14 quarters of barley on a like portion. That the above are not solitary instances may be known by the fact that on a single acre selected from a field of wheat on the farm of Mr. Collard, of Reculver, 10 quarters and 3 bushels was the amazing produce, which was proved with great care for the purpose of deciding a considerable wager. [Kentish Observer.]

**AGRICULTURAL CLUBS—THEIR UTILITY.**—To how many counties besides the one for which it was issued, would not the following Prospectus apply?

"At a time like the present, when the necessity for increased knowledge, industry, and economy is urged upon the Maryland farmer by so many considerations, which not merely involve the question of his continuing to enjoy undiminished the comforts to which he has hitherto been accustomed, but which plainly prove that he cannot maintain anything like his former position unless by adopting a better system of farming, by which he can so increase the productive powers of his land as to be able to meet the increased demands upon him and the increased competition against him; and when we take into consideration the power of association and the strength derived from union, it cannot escape the notice of sensible men both how much this district wants, and how greatly it is likely to be benefited by, a Farmers' Club."

**TO MAKE A EWE ADOPT A STRANGE LAMB—DETERIORATION OF DOMESTIC ANIMALS IN AMERICA.**—The usual practice is, when a ewe loses her lamb, to place its skin on the lamb which it is desired she shall nurse in place of it. This is usually attended with success, but, says the author of a Prize Essay on Sheep, in case of difficulty, a little gin rubbed upon the skin of the lamb [meaning, it is presumed, the skin of the lamb to be foisted on her in place of her own] and nose of the ewe, at once effects the desired object. This expedient is so easily adopted that it was thought best to give it a place in 'The Farmers' Library. We take the occasion to say that we believe American Farmers generally have no idea of the great and unwearied care taken in England by breeders of improved stock of every sort, to keep it up to the mark of highest excellence. Those who are aware of it cease to wonder at the deterioration which generally ensues after a few generations in this country, with stock from high-priced imported ancestors. We have not the practiced skill in breeding nor the latitude of choice which are necessary for the selection of breeders.

An ox that is in good condition in the spring, will perform more labor, and stand the heat of summer much better than one that is poor.



## THE HOUSEWIFE'S DEPARTMENT.

IN our last, gentle readers, we gave a little more space to this Department than can be promised for it generally; and return to it now with a sense of our inability to sustain it in a manner worthy of the obligation it implies; for what trust in the circle of social duties can be more imposing and responsible than that of undertaking to share in offering advice, and providing appropriate intellectual food for the minds of daughters who aim to be the pride and consolation of their parents; and for mothers on whose example and virtues the happiness and prosperity of their families depend—mothers who shall merit to have it said of them: “Her children rise up and call her blessed, her husband also, and he praiseth her.”

One perplexity in the management of this interesting department is in considering what is adapted to the position and duties of housewives, differing so much as they do—according to difference in the social habits and domestic economy of different parts of our country. Our own observation in early life has made us most familiar with, and anxious about the lot of Woman as she is placed *in the country*, acting the most engaging part of the domestic circle of well bred, well informed gentlemen farmers and planters, as they are found in that middling and moderate condition as to fortune and circumstances in life, which, in the main, seems to offer the best chance for such true independence, respectability and happiness as may be reasonably hoped for in our country. It is to them that we shall generally address what we may have to store away in this corner of the Farmers' Library, in the hope that even though we may fail to benefit by wise counsels, we may yet propitiate their good will by the manifestation of our own. Trite as the saying may be, it is no less true, that regard for the feelings of Woman and the melioration of her condition has kept pace with advancing civilization, yet in no country has she received her full measure of consideration and respect, when we reflect that in full proportion to the progress of civilization her duties become more elevated and her responsibilities enhanced. With some opportunities to judge, both in town and country, the first remark we have to make is, that while the public sentiment is evidently improving on that point, the *education of females* is yet, too generally, either grossly neglected or egregiously mismanaged, with reference to the arduous and delicate station which every young woman is expected to occupy ultimately, and earlier in ours than in any other country in the world. Not that they come to maturity so soon as in some others, but that the means of independent support are so much more abundant or more easily acquired. Where every member of a family is brought up to labor, parents are too apt to calculate the money value of their children's time, and thus never being educated up to that point which begets a fondness for reading, for the sake of intellectual acquirement and recreation, they are not only cut off, in after life, from a cheap resource, that might enable them to fill up many an idle and dangerous moment, and to beguile many a sad one; but are also disqualified to perform that highest office of a noble mother—the *instruction of her offspring*. On the other hand, where the means and even the will exists to bestow a liberal education, it is too apt to be so often perverted in the conduct of it as to qual-

ify them for catching frivolous admirers, rather than for making good house wives and well-qualified mothers.

Entertaining these impressions, founded on no very limited observation, you behold, gentle readers, the motives which will prompt us, and, as says the conveyancer, "be it known to all whom it may concern," to endeavor with what success we may, so to conduct this, *your* department, as to mingle amusement with instruction—instruction in other things besides cake and jumble making. It is in the way thus indicated, by leading the housewife to understand that her duties, when properly understood and appreciated, are as highly intellectual and morally responsible as those of her husband—that there is a principle and a literature that belongs as much to the manufacture of butter and the cultivation of the vine, as to any of his pursuits—that she can be brought to feel and to assert the dignity of her position, and prepared to exchange the pleasures of intellectual intercourse with her husband at the same time that she acquires confidence and capacity to rival him in his outdoor management, and even to take that on herself in case of his sickness or indispensable absence—too often at a cross-roads militia mustering or partisan slang-whanging. Sorry are we here to say, as truth requires, that an ill-judged, not to say cruel economy, too often leads husbands to withhold from the wife the assistance indispensable to the comfortable and successful management of the duties assigned her, and this want of the requisite aid and convenience, be it said, is much more remarkable in the country, where the housewife's duties are more complex, and the sphere of them much more extensive than in town; and herein may be recognized another of the numerous and powerful attractions ever drawing people from the country to the cities. Not long since, we remember, on a visit to a Lunatic Asylum, in a northern city, renowned, justly, for the humanity of its discipline and the economy and success of its administration, we inquired of the accomplished physician in charge of it, from what particular class of society came the largest proportion of his patients; and the painfulness of his reply will never be forgotten, could we live to the age of Methuselah: "They come," said he, "from the class of young married women, after their second and third child." Often, added he, their husbands, eager for the pittance of gain, not satisfied with devolving on them the toils and care of their own household and family proper, take in boarders besides, who work in the neighboring factories, and for whom also the wife has to cook, and otherwise labor—and thus, between child-bearing, nursing, and accumulated drudgery and anxieties, their minds break, even before their constitutions, and the poor woman, who but a few short years before had resigned father and mother, and sisters and brothers, to cling unto him who promised to love and to cherish her, becomes the victim of a niggardly economy, and is lodged as a maniac in a lunatic asylum, leaving her poor children to struggle with a destiny, if possible, more perilous and sad than her own. True, in that asylum, as at Baltimore, under the unfailing and enlightened benevolence of a Stuart, the patients are felt and cared for, as all should be who are thus bereft of that greatest boon of the Almighty power—their *reasoning faculties*. But alas, what can "minister to a mind diseased?"

We cannot close this, as we fear it has appeared a rather tedious homily on the condition and cares of the housewife in the country, without a word on that word so much misunderstood—*education*! In the general if not literal application, it is understood to be that portion of knowledge acquired within the walls of a school-house, under the instruction too often of rude and ignorant peda-

gogues; because, in our country, the noble office of instructor is so badly paid and so little respected. But in the true sense of the word education—in the light in which it is especially incumbent on every parent to view it—all Nature is but one great school-house, and every sense a teacher. Yet above all places, the moral influence exists at home—at the fireside—in the examples and the conversation of parents. What emanates from them, is received with implicit confidence, and carries with it the force of truthful authority. Hence the wisdom of Solomon's injunction, "train up a child in the way he should go, and when he is old he will not depart from it." Neglecting this injunction the consequence follows, that "He visits the iniquity of the fathers upon the children to the third and fourth generation"—for there is no knowing through how many generations a false principle in morals or vicious example may go down. There is no limit in fact to the power of education. It makes the bear dance. While of all the blessings that Providence can bestow or education improve, none can exceed that of a *cheerful temper*. Of such an one, Hope is ever the inseparable companion, ready to throw a ray of sunshine over the most sombre pictures of life, to mitigate adversity, and to make prosperity doubly prosperous. It may be that this is the gift of Nature, but all her gifts are improvable, and invite the exercise of reason and judgment. As plants, not indigenous, have been made by the art and diligence of the horticulturist to flourish in soils not their own, so in the youthful mind and bosom the parent may plant the seeds, not only of resignation, but of contentment and cheerfulness under the sorest afflictions, the visitations of poverty and disease, and the loss of our dearest relatives. As a moral may be drawn from almost everything around us, let us point you, fair readers, to the example of your own little canary—a hopeless prisoner for life! Yet admire his vivacity, and listen, how he beguiles his endless confinement with his various but endless song. As the great naturalist Buffon has said of him—"The Nightingale is the chantress of the woods, the Canary is the musician of the chamber. Its education is easy; we rear it with pleasure because we are able to instruct it. It leaves the melody of its own natural note, to listen to the melody of our voices and instruments. It applauds, it accompanies us and repays the pleasure it receives with interest. It sings at all seasons, cheers us in the dullest weather, and adds to our happiness, by amusing the young and delighting the recluse, charming the tediousness of the cloister, and gladdening the soul of the innocent and captive." What an example is here set by one of the least and most engaging of the feathered creation! And how often have all of us seen gayety and innocence thus combined in one or more lively and amiable members of a family, the 'life and soul,' as they are called, of the house in which they dwell! Such a temper is to be valued, as it gladdens its possessor and all around, beyond all price. The mines of Golconda contain nothing so precious. It deserves the name bestowed on a new plant in Europe, called the "gold of pleasure."

But, fair readers, it is time to look for something of what is now days called practical, lest he whose judgment is always to be consulted should say "well, in all this, what has he told you that is useful for the housewife, in her chicken bonnet and apron, with her bunch or basket of keys in her hand?" True enough, so let us turn to our *receipt book*. Not one stereotyped and printed by steam and for sale by the thousand, and whose merit consists in the exactness of its alphabetical arrangement and the size of its volume; but one of your real honest manuscript treasures, containing the very essence and quintessence, the quinine of good housewifery, as it is practiced in the good Old Thirteen, where ladies



are not ashamed to look after the churning of the butter and the feeding of the poultry—where they still carry their own keys and give out the flour and the butter and the sugar and the coffee—where they *know* the exact proportion of plums for a pudding, and sage to sausage-meat. Those are the sort of receipts we can trust, and, ladies, if in any one we ever deceive you, all we have to say is—send us a better. So now for—let us see—ah! this is the very season

**TO MAKE BUCKWHEAT CAKES.**—Instead of yeast, not everywhere to be conveniently had, you may use carbonate of soda and tartaric acid, after this fashion. To 3 pints of buckwheat flour mixed into a batter, add one tea-spoonfull of carbonate of soda dissolved in water—add one also of tartaric acid dissolved in like manner. These you can get at any of the druggists when you send to town. First apply the carbonate, stir the batter well, and then put in the acid. Thus the use of yeast is entirely superseded, and cakes as “light as a feather” are insured. One great advantage is, that the batter is ready for baking as soon as it is made.

**N. B.**—As buckwheat cakes are sometimes met with, made of black meal and not lightened, and then burnt without being done, one might as well eat so much raw hide. We used to send to Philadelphia, and got meal nearly as white as wheat meal. s.

**RECIPT FOR MAKING JOURNEY OR “JOHNNY CAKE.”**—Boil a quart of milk, and stir into it one quart of Indian meal, from corn grown south of the Chesapeake—Northern corn is not light and dry enough, any more than Northern wheat, to make the best bread, though it may be, and probably is, more nutritious for horses—add a little salt and a piece of butter or lard the size of an egg. Spread the dough on the Johnny-cake board half an inch thick—some bake it in pans, but they are not of the school in which people know “what’s what.” It should be an oak board, such as used for shingles, about 18 inches long, kept as clean, by scraping and washing, as clean can be—as clean as ladies’ fingers. The board must be wet when the dough is put on, to be spread and patted to the proper thickness, and laid lengthwise on the hearth, near enough to the fire to cook quickly without burning, and when done brown, without being burnt on one side, the kitchen knife is passed from end to end under the cake, when it is turned, and returned to its place at the fire—[we like to be precise in these cases]—and as soon as done it should be eaten, while hot, with good butter. *Mem.*—Some, for economy, put aside butter that is not good, and call it “cooking butter.” Well, if not for cooking, for what purpose should butter be good? All butter is good or not good, and that which is not good should be at once consigned to the slush-tub, or have a little tar mixed with it and laid aside for the cart-wheels! But good Johnny-cake, as well as a good many other good things, are only to be had where there are—wood fires. s.

*Postscript.*—Dear Ladies, let me detain you while I make one extract from a book on my table entitled, FRUITS AND FARINACEA.

Sir William Temple, after noticing the customs and habits of the Patriarchs, says, [and we believe it,] “From all these examples and customs it may probably be concluded that the common ingredients of health and long life are, great temperance, open air, easy labor, little care, *simplicity of diet*—rather fruits and plants than flesh (which corrupts the humors,) and water, which preserves the radical moisture without too much increasing the radical heat.” “A quiet state of mind is of the utmost importance to the maintenance of health, and a light and spare diet contributes greatly to the same end.”

No one, no, not even the doctor, has more right or reason to be instructed in the rules of *Hygeia* than mothers. *Hygeia*, you know, was the “sweet smiling Goddess of Health,” and is figured, in painting and statuary, with a bowl in her hand from which a serpent is eating—emblematic of the art of Medicine. There is a marble figure of *Hygeia* surmounting that glorious fountain of health, the old White Sulphur Springs, in Greenbriar, Virginia. s.

**EGGS AND POULTRY.**—Among all nations, and throughout all grades of society, eggs have been considered a favorite food. But in our cities, and particularly in winter, they are sold at such prices that few families could afford to use them at all, and even those in easy circumstances consider them too expensive for common use. There is no need of this. Every family, or nearly every family, can, with very little trouble, have eggs plenty during the year, and of all the animals domesticated for the use of Man, the common dunghill fowl is capable of yielding the greatest profit to the owner. In the month of November, I put apart eleven hens and a cock, gave them a small chamber in the woodhouse, defended from storm, with an opening to the south. Then food, water and lime were placed on shelves convenient for them, with nests and chalk nest-eggs in plenty. These hens continued to lay eggs throughout the winter. From these eleven hens I received an average of six eggs daily during the winter; and whenever any one of them was disposed to sit, namely, as soon as she began to cluck, she was separated from the others by a grated partition and her apartment darkened. These cluckers were well attended to and well fed. They could see and partly associate through the grates with the other fowls, and as soon as any of these prisoners began to sing, she was liberated, and would very soon lay eggs. It is a pleasant thing to feed and tend a bevy of laying hens. They may be tamed so as to follow the children, and will lay in a box. Egg-shells contain lime, and when in winter the earth is covered with frost and snow, if lime be not provided for them, they will not lay; or if they do, the eggs of necessity must be without shells. Old rubbish lime, from chimneys and old buildings, is proper for them and need only to be broken. They will often attempt to swallow pieces of lime and plaster as large as walnuts. The singing hen will certainly lay eggs if she finds all things agreeable to her, but the hen is so much a prude—as watchful as a weasel and fastidious as a hypocrite—she must, she will have, secrecy and mystery about her nest. All eyes but her own must be averted. Follow or watch her, and she will forsake her nest and stop laying. She is best pleased with a box covered at the top, with a back side aperture for light, and a side door by which she can escape unseen. A farmer may keep one hundred fowls in the barn, may suffer them to trample on and destroy his mows of grain, and have fewer eggs than the cottager who keeps a dozen, provides secret nests, chalk eggs, pounded bricks, plenty of corn or other grain, water and gravel for them, and takes care that his hens be not disturbed about their nest. Three chalk eggs in a nest are better than one, and large eggs please them most. I have smiled to see them fondle round and lay in a nest of geese eggs. Pullets will begin to lay early in life, when nests and eggs are plenty, and when others are clucking around them. A dozen dunghill fowls shut up from the means of obtaining food, will require something more than a quart of corn a day. I think fifteen bushels a year a fair allowance for them; but, more or less, let them always have enough by them; and after they have become habituated to find at all times plenty in their little manger, they take but a few kernels at a time, except just before going to roost, when they will take nearly a spoonfull in their crops. But just so sure as their provisions come to them scantied or irregularly, so sure will they raven up a whole cropfull at a time and stop laying. A dozen hens well attended, will furnish a family with more than two thousand eggs a year, and one hundred full grown chickens for the fall and winter stores. The expense of feeding a dozen fowls will not amount to more than eighteen bushels of grain. They may be kept in cities as well as in the country—will do as well shut up the year round as to run at large. A grated room well lighted, ten feet by five, partitioned from a stable or other outhouse, is sufficient for a dozen fowls with their roosting, nests, and feeding-troughs. In the spring of the year, five or six hens will hatch at a time, and the fifty or sixty chickens may be given to one hen. Two hens will take care of one hundred chickens well enough until they begin to climb their little stick roosts. They then should be separated from the hens entirely. I have often kept the chickens when young in my garden. They keep the May-bugs and other insects from the vines. In case of confining fowls in summer, it should be remembered that a ground floor should be chosen; or it would be just as well to set in their pens boxes of well dried, pulverized earth, for them to wallow in during warm weather. Their pens should be kept clean.

[Scottish Reformer's Gazette.]

**HINTS TO LOVERS OF FLOWERS.**—A most beautiful and easily attained show of evergreens in winter may be had by a very simple plan, which has been found to answer remarkably well on a small scale. If geranium branches are taken from healthy and luxurious trees just before the winter sets in, cut as for slips, and immersed in soap and water, they will, after drooping for a few days, shed their leaves, put forth fresh ones, and continue in the finest vigor all the winter. By placing a number of bottles thus filled in flower-baskets, with moss to conceal the bottles, a show of evergreens is easily procured for a whole season. They require no fresh water.

**SEEDLING FRUIT.**—It is gross ignorance, says Professor Lindley, in any man to suppose that the seedlings of grafted plants will be the same as the parent.

**HORTICULTURAL ZEAL.**—Some idea may be formed of the spirit which animates Horticulturists in London, from the fact that some time since Dr. LINDLEY offered three prizes of 10s. 6s. and 4s. for the three *most extensive* and *best named* collection of Wild Flowering Plants, gathered between 6 p. m. on July 31, and 6 a. m. Aug. 2. These prizes were contended for by the following persons, viz.:

CULVERWELL, producing 176 species, of which 168 were allowed.			
BAXTER, " 178 " 166 "			
SHERWOOD, " 166 " 158 "			
DUMBRILL, " 123 " 121 "			
WILLIAMS, " 123 " 120 "			
COLMER, " 120 " 118 "			
HADLOW, " 100 " 93 "			

and consequently the first three competitors gained the prizes.

We have been forcibly attracted by the number of beautiful wild flowers that adorn the banks of the Alabama River in early spring.

Young ladies who have the good fortune to become farmers' wives will find it more profitable to know how to make Johnny-cake, butter and cheese, than to play the piano, though there is "a time for all things."

## PRICES CURRENT.

[Corrected, December 22, for the Monthly Journal of Agriculture.]

ASHES—Pots, 1st sort, '47. $\Phi$ 100 lb. 5 50 @ —	Staves, White Oak, pipe, $\Phi$ M.... 60 — @ —
Pearls, 1st sort, '47..... 7 — @ —	Staves, White Oak, hhd..... 45 — @ —
BEESEWAX—American Yellow .... 22 @ — 22½	Staves, White Oak, bbl..... 35 — @ —
CANDLES—Mould, Tallow.. $\Phi$ lb... 12 @ — 14	Staves, Red Oak, hhd..... 30 — @ 33 —
Sperm..... 31 @ — 38	Hoops..... 27 — @ 32 —
COTTON—From..... $\Phi$ lb. 6½ @ — 9½	Scantling, Eastern..... 17 50 @ 20 —
COTTON BAGGING—Kentucky... 15½ @ — 16	Scantling, Oak..... 30 — @ 35 —
CORDAGE—American..... $\Phi$ lb. 11 @ — 12	Timber, Oak..... $\Phi$ cubic foot — 22 @ — 25
DOMESTIC GOODS—Shirtings, $\Phi$ y. — 5 @ — 9	Timber, White Pine..... — 18 @ — 22
Sheetings..... 6 @ — 15	Timber, Georgia Yellow Pine .... — 30 @ — 35
FEATHERS—American, live..... 35 @ — 37½	Shingles..... $\Phi$ bunch 2 50 @ 2 75
FLAX—American..... 8½ @ — 9	Shingles, Cedar, 3 feet, 1st quality. 28 — @ 34 —
FLOUR & MEAL—Genesee, new, bbl. 6 37½ @ 6 50	Shingles, Cedar, 3 feet, 2d quality. 27 — @ 32 50
Oswego..... 6 06½ @ 6 12½	Shingles, Cedar, 2 feet, 1st quality. 20 — @ 25 —
Michigan..... 6 18½ @ 6 25	Shingles, Cedar, 2 feet, 2d quality. 18 — @ 22 —
Ohio..... 6 18½ @ 6 25	Shingles, Cypress, 2 feet..... 18 — @ 22 —
Ohio, Round Hoop..... — @ —	Shingles, Company..... 35 — @ 38 —
Ohio, via New-Orleans..... — @ —	MUSTARD—American..... — @ —
Pennsylvania..... — @ —	NAILS—Wrought, 6d to 20d... $\Phi$ lb. — 10 @ — 14
Brandywine..... 6 75 @ —	Cut 4d to 40d..... — 4½ @ — 4½
Georgetown..... — @ —	PLASTER PARIS— $\Phi$ ton..... 2 75 @ —
Baltimore, Howard-street..... — @ 6 50	PROVISIONS—Beef, Mess, $\Phi$ bbl... 8 25 @ 8 75
Richmond City Mills..... — @ 7 50	Beef, Prime..... 5 25 @ 5 75
Richmond Country..... — @ —	Pork, Mess, Ohio .. — @ —
Petersburg..... — @ 6 50	Pork, Prime, Ohio..... 8 — @ 8 12½
Rye Flour..... 4 37½ @ 4 50	Lard, Ohio..... $\Phi$ lb. — 6½ @ — 8½
Corn Meal, Western and State... 3 18½ @ 3 37½	Hams, Smoked..... — 9½ @ — 11½
Corn Meal, Pennsylvania & Jersey 3 37½ @ 3 50	Shoulders, Pickled..... — 5½ @ — 6
GRAIN—Wheat, White... $\Phi$ bush. 1 35 @ 1 40	Beef Hams in Pickle..... — 8 @ 10 —
Wheat, Red and mixed..... 1 25 @ 1 32½	Beef, Smoked..... $\Phi$ lb. — 6 @ — 6½
Rye, Northern..... — 85 @ — 85	Butter, Orange County Dairy .... — 19 @ — 21
Corn, Jersey and Northern yel... — 80 @ — 81	Butter, Western Dairy..... — 14 @ — 16
Corn, Southern, yellow..... — @ —	Butter, Grease..... — @ —
Corn, Western, yellow..... — 77 @ — 79	Cheese..... — 6 @ — 7
Oats, Northern..... — 47 @ — 51	SEEDS—Clover..... $\Phi$ lb. — 7 @ — 7½
Oats, Southern..... — 42 @ — 45	Timothy..... $\Phi$ tierce 15 — @ 17 —
HAY—North River in bales, $\Phi$ 100 lb. — 54 @ — 60	Flax, Rough..... — @ —
HEMP—American, dew-rotted... ton 120 — @ 140 —	SOAP—New-York..... $\Phi$ lb. — 4 @ — 7
" " water-rotted..... 160 — @ 190 —	TALLOW—American Rendered ... — 8 @ — 8½
HOPS—1847..... — 6 @ — 7½	TOBACCO—Virginia..... @ lb. — 2½ @ — 7½
IRON—American Pig, No 1..... 37 50 @ 40 —	North Carolina..... — @ —
" " Common..... 30 — @ 32 50	Kentucky and Missouri..... — 4 @ — 7½
LIME—Thomaston..... $\Phi$ bbl. — @ — 80	WOOL—Am. Saxony, Fleece.. $\Phi$ lb. — 45 @ — 50
LUMBER—Boards, N.R., $\Phi$ M. ft. cir. 35 — @ 40 —	American Full Blood Merino..... — 38 @ — 40
Boards, Eastern Pine..... — @ —	American ½ and ¾ Merino..... — 33 @ — 36
Boards, Albany Pine..... $\Phi$ pce. — 10 @ — 19	American Native and ¾ Merino... — 28 @ — 30
Plank, Georgia Y. Pine. $\Phi$ M. ft... 27 50 @ 30 —	Superfine, Pulled Country..... — 33 @ — 35